



# **COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI POST BOX NO. 94, JALGAON – 425001. (M.S.)**

**(With NBA Accredited Programmes)**

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## **Mandatory Disclosure**

### **Part-III**

**January 2020**



**North Maharashtra University, Jalgaon**  
**M.E. (Computer Science and Engineering)**  
**Syllabus with effect from Year 2009-10**  
**First Year Term I**

| Sr. No. | Subject                       | Teaching Scheme per Week |    | Examination Scheme |       |     |    |    |
|---------|-------------------------------|--------------------------|----|--------------------|-------|-----|----|----|
|         |                               | L                        | P  | Paper Hr.          | Paper | TW  | PR | OR |
| 1       | Advanced Software Engineering | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 2       | Distributed Systems           | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 3       | Net-Centric Computing         | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 4       | Applied Algorithms            | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 5       | Elective- I                   | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 6       | Laboratory Practice-I         | -                        | 6  | -                  | -     | 100 | -  | 50 |
| 7       | Seminar-I                     | -                        | 4  | -                  | -     | 100 | -  | -  |
|         | <b>Total</b>                  | 15                       | 10 |                    | 500   | 200 |    | 50 |
|         | <b>Grand Total</b>            | <b>25</b>                |    | <b>750</b>         |       |     |    |    |

**Elective I**

- 1) Embedded Software Design
- 2) Digital Image & Video Processing
- 3) Mathematical Foundations of Computer Science
- 4) Software Project Management

**First Year Term II**

| Sr. No. | Subject                              | Teaching Scheme per Week |    | Examination Scheme |       |     |    |    |
|---------|--------------------------------------|--------------------------|----|--------------------|-------|-----|----|----|
|         |                                      | L                        | P  | Paper Hr.          | Paper | TW  | PR | OR |
| 1       | Advanced Database Management Systems | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 2       | Web Engineering                      | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 3       | Parallel Computing                   | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 4       | Soft Computing                       | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 5       | Elective- II                         | 3                        | -  | 3                  | 100   | -   | -  | -  |
| 6       | Laboratory Practice-II               | -                        | 6  | -                  | -     | 100 | -  | 50 |
| 7       | Seminar-II                           | -                        | 4  | -                  | -     | 100 | -  | -  |
|         | <b>Total</b>                         | 15                       | 10 |                    | 500   | 200 |    | 50 |
|         | <b>Grand Total</b>                   | <b>25</b>                |    | <b>750</b>         |       |     |    |    |

**Elective II**

- 1) Software Testing And Quality Assurance
- 2) Cryptography and Network Security
- 3) Pattern Recognition
- 4) Mobile Computing

### Second Year Term I

| Sr. No. | Subject            | Teaching Scheme per Week |    | Examination Scheme |       |     |    |    |
|---------|--------------------|--------------------------|----|--------------------|-------|-----|----|----|
|         |                    | L                        | P  | Paper Hr.          | Paper | TW  | PR | OR |
| 1       | Seminar-III        | -                        | 4  | -                  | -     | 50  | -  | 50 |
| 2       | Project Stage –I   | -                        | 18 | -                  | -     | 100 | -  | -  |
|         | <b>Total</b>       | -                        | 22 | -                  | -     | 150 |    | 50 |
|         | <b>Grand Total</b> | <b>22</b>                |    | <b>200</b>         |       |     |    |    |

### Second Year Term II

| Sr. No. | Subject            | Teaching Scheme per Week |    | Examination Scheme |       |     |    |     |
|---------|--------------------|--------------------------|----|--------------------|-------|-----|----|-----|
|         |                    | L                        | P  | Paper Hr.          | Paper | TW  | PR | OR  |
| 1       | Progress Seminar   | -                        | -  | -                  | -     | 50  | -  | -   |
| 2       | Project Stage –II  | -                        | 18 | -                  | -     | 150 | -  | 100 |
|         | <b>Total</b>       | -                        | 18 | -                  | -     | 200 | -  | 100 |
|         | <b>Grand Total</b> | <b>18</b>                |    | <b>300</b>         |       |     |    |     |

## **Rules and Regulations for M.E. in Computer Science & Engineering**

1. The post graduate degree in engineering consisting of 2 years (4 terms) shall be designated as Master of Engineering in Computer Science & Engineering.
2. A candidate may be permitted to register him/her self for the M.E. degree in Computer Science and Engineering under the faculty of engineering & technology of North Maharashtra University Jalgaon ,only if the candidate holds a bachelor's degree in Engineering & technology of North Maharashtra University , Jalgaon or its equivalent in Computer Engineering / Computer Science & Engineering / Computer Technology /Information Technology/ Electronics/ Electronics and Telecommunication /Electrical recognized by AICTE & North Maharashtra University , Jalgaon.
3. The student shall be admitted to First Year Term II if his/her Term I is granted.
4. The student shall be admitted to the Second Year when ever he/she clears all the theory papers of First Year. The student in any case should not be allowed to start project work before passing all the subjects of first year. The student will have to work on his/her project for minimum one year after passing first year subjects. He/she will not be allowed to submit his/her thesis/dissertation before that.
5. Every student will be required to produce a record of laboratory work in the form of journal, duly certified for satisfactory completion of the term work by the concerned teacher & head of the department.
6. A student whose term is not granted on account of less attendance (Minimum 80%) or non-submission of term work is required to repeat the term.
7. Any approved guide will not be allowed guide more than 5 students in a particular batch.
8. Each student is required to present Seminar-I in the First Year Term I on any related state of the art topic of his own choice approved by the department.
9. The term-work & presentation of the Seminar-I will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.
10. Each student is required to present Seminar-II in the First Year Term II on any related state of the art topic of his own choice approved by the department.
11. The term-work & presentation of the Seminar-II will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.



12. Each student is required to present Seminar-III in the Second Year Term I on special topic. The topic should be on any of the area not included in the regular curriculum. The report should include detailed study of specific concept (i.e. analysis, design & implementation.). This can be a theoretical study or practical implementation approved by the department/guide.

13. Guidelines for the Seminar-III in Second Year Term I:

1. Seminar-III should be conducted at the end of Second Year Term I.
2. The term-work of the Seminar-III will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.
3. The Seminar-III presentation will be evaluated by examiners appointed by University, one of which should be the guide.
4. Student must submit the Seminar Report in the form of soft bound copy
5. The marks of Seminar-III should be submitted at the end of Second Year Term I to the University.

14. Guidelines for the Progress Seminar in Second Year Term II:

- Progress Seminar should be conducted in the middle of Second Year Term II.
- The Progress Seminar Term-Work will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.
- Student must submit the progress report in the form of soft bound copy.
- The marks of progress seminar should be submitted along with the marks of Project Stage-II.

15. Minimum passing marks for all Theory shall be 40% and for Term work and Oral shall be 50%.

16. He/she has to present/publish atleast one paper in reputed National/International Journal/Conference on his/her Project work before submission of his/her Thesis/Dissertation.

17. The Term Work of Project Stage –II will be assessed jointly by the pair of Internal and External examiner along with oral examination of the same.

18. The class will be awarded on the basis of aggregate marks of all four terms, giving equal weightage to all terms as shown below:

- |                         |                                 |
|-------------------------|---------------------------------|
| a) Less than 50%        | : Fail                          |
| b) 50% to less than 60% | : Second Class                  |
| a) 60% to less than 70% | : First Class                   |
| b) 70% & above          | : First Class with Distinction. |

19. Each student is required to complete his/her master's degree within **Five** academic years from the date of admission, failing which he/she will be required to take fresh admission in first year.

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br><b>FIRST YEAR TERM I</b>  |                          |
|--|--------------------------|
| <b>SUBJECT: ADVANCED SOFTWARE ENGINEERING</b>  |                          |
| <b>Lectures: 3 Hrs per week</b>  | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>After successfully completing the module student should be able to apply the systematic approach towards the effective software development, also able to demonstrate knowledge of software design, development and processes using software engineering approaches and practices.  |                          |
| <b>Pre-requisites:</b><br>Knowledge of Software Engineering.   |                          |
| DETAILED SYLLABUS  |                          |
| <ol style="list-style-type: none"> <li>1. Introduction to Software Engineering: Software Engineering Processes, Project Management concept, Project Effort estimation, LOC and function point based estimates, Requirement Analysis and Specifications, Formal Requirements, Specifications, Socio-technical Systems, Dependability, Critical Systems Specification, Formal Specification. Analysis Modeling, Elements of Analysis Model.</li> <li>2. Design Concepts and Principles: Fundamental issues in Software Design, Effective Modular Design, cohesion and coupling. Architectural Design, Distributed Systems Architecture, Application Architectures, Real-time Systems, User Interface Design, Component Level Design, Modeling Language(UML)</li> <li>3. Software Development Methodologies: Iterative Software Development, Software Reuse, CBSE, Critical Systems Development Software Evolution. Verification and Validation, Software Testing, Software Testing Principles, Alternative Paradigms: Extreme Programming, Agile Software Engineering, Principles behind Agile method, Agile method and Project Management.</li> <li>4. Object Oriented Software Engineering: Software Process Improvement, Software Economics, Software Quality, Software Metrics, Software Maintenance, Risk management, Requirement Engineering, Object oriented concepts and principles, OO Analysis, OO Design, OO Testing,</li> <li>5. Advanced Software Engineering Process: Formal Methods, Basic concepts, Mathematical Preliminaries, Clean room Software Engineering, Component Based Software Engineering, Client/Server Software Engineering, Web Engineering, Reengineering</li> </ol> |                          |
| BOOKS  |                          |
| <b>Text Books:</b>   |                          |
| <ol style="list-style-type: none"> <li>1. K.K Aggarwal &amp; Yogesh Singh, "Software Engineering", 3<sup>rd</sup> Edition, New Age International, 2007</li> </ol>  |                          |

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|---|
| <b>References:</b>  |
| <ol style="list-style-type: none"><li>1. Ian Somerville, "Software Engineering", 8<sup>th</sup> Edition, Addison-Wesley, 2006,</li><li>2. Roger S Pressman, "Software Engineering: A Practitioner's Approach" 6<sup>th</sup> Edition, McGraw Hill, 2005.</li><li>3. Fenton and Pfleeger "Software Metrics:- A Rigorous and Practical Approach" , 2<sup>nd</sup> Edition , Tomson Learning</li><li>4. Grady Booch, Rumbaugh, Jacobson, "Unified Modeling Language User Guide", Addison Wesley.</li></ol> |

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                          |
|---|--------------------------|
| <b>FIRST YEAR TERM I</b>  |                          |
| <b>SUBJECT: Distributed Systems</b>   |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>This course aims to build concepts regarding the fundamental principles of distributed systems. The design issues and distributed operating system concepts are covered.   |                          |
| <b>Pre-requisites:</b> Operating Systems and Computer Networks  |                          |
| DETAILED SYLLABUS   |                          |
| 1. INTRODUCTION: Definition of a Distributed system, Goal, Types of distributed system<br><br>2 .ARCHITECTURES : Architectural styles, System Architectures, Architectures versus Middleware, Self management in distributed systems<br><br>3. PROCESSES: Threads, Virtualization, Clients, Servers, Code migration.<br><br>4 .COMMUNICATION: Fundamentals, Remote Procedure Call, Message Oriented Communication, Stream oriented communication, Multicast communication.<br><br>5. NAMING: Names, Identifiers and Addresses, Flat, Naming, Structured Naming, Attribute based Naming, LDAP<br><br>6. SYNCHRONIZATION: Clock Synchronization, Logical Clocks, Mutual Exclusion Global Positioning of nodes, Election Algorithms.<br><br>7. CONSISTENCY AND REPLICATION: Introductions, Data Centric Consistency Models, Client Centric Consistency Models, Replica Management, Consistency Protocols.<br><br>8. FAULT TOLERANCE: Introduction to fault tolerance, Process resilience, Reliable Client Server Communication, Reliable group, Recovery<br><br>9. DISTRIBUTED FILE SYSTEMS: Architecture, Process Communication, Naming, Synchronization, Consistency and Replication, Fault tolerance, Security.<br><br>10 DISTRIBUTED COORDINATION-BASED SYSTEMS: Introduction to coordination models- Architectures, Processes communication, Synchronization, Consistency and Replication, Fault tolerance, Security. |                          |
| BOOKS   |                          |
| <b>Text Books:</b>  |                          |
| 1. Andrew S. Tanenbaum, Maarten Van Steen, "Distributed System: Principals and Paradigms", 2/E, PHI.  |                          |

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| <b>References:</b>   |
| <ol style="list-style-type: none"><li>1. George Coulouris, Jean Dollimore and Tim Kindberg, "Distributed Systems Concepts and Design", Fourth Edition, Pearson Education, 2005.</li><li>2. Pradeep K. Sinha, "Distributed Operating Systems Concepts and Design" , PHI.</li><li>3. Galli D.L., "Distributed Operating Systems: Concepts and Practice", Prentice-Hall, 2000</li></ol> |

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| <p align="center"><b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br/> <b>FIRST YEAR TERM I</b></p>  |                          |
| <p align="center"><b>SUBJECT: NET-CENTRIC COMPUTING</b></p>  |                          |
| <b>Lectures: 3 Hrs per week</b>  | <b>Theory: 100 Marks</b> |
| <p><b>Objective:</b><br/> After successfully completing the module student should be :<br/> Familiar with different network technologies, Different Network performance, Modeling and estimation measures, Function and responsibilities of Network Administration, Different Network Design Techniques, Knowledge of High Speed Network, Issues regarding Network Security, Knowledge of IP Telephony, Storage Network and Compression Techniques.</p>  |                          |
| <p><b>Pre-requisites:</b><br/> Knowledge of Data Communication and Computer Networks.</p>  |                          |
| <p>DETAILED SYLLABUS</p>   |                          |
| <ol style="list-style-type: none"> <li>1. Network Technology :<br/> Introduction, Media Issues, Data Link Protocols, The OSI Model, Networking topologies, Types of Networks, protocols capabilities, NetBIOS, IPX,TCP/IP,CSMA/CD, token passing, frame relay, networking devices, Repeaters, Bridges, Routers, switches, gateways, Network design issues, Data in support of Network Design, Network design tools, protocols and architecture.</li> <li>2. Network Performance, Modeling and Estimation :<br/> Issues related with optimizing network performance, probability, stochastic processes, modeling and performance evaluation. Queuing theory, queuing models, estimating model parameters, throughput utilization, modeling network as graph external and internal representation, complexity issues, network traffic controls.</li> <li>3. Network Administration :<br/> Function and responsibilities, network issues:-planning, implementation, fault diagnosis and recovery.</li> <li>4. Network Design :<br/> Problem definition, multipoint line layout heuristics, CMST algorithms, ESAU-William's algorithm, Sharma's algorithm, unified algorithm, Bin packing algorithm, Terminal assignments and concentrator location.</li> <li>5. High Speed Networks :<br/> Need, characteristics, challenges, applications, frame relay, ATM, ISDN, High speed LANs: Ethernet, fiber channel, DQDB, SMDS, B_ISDN, STM, DSL, and DWDM, Architecture Transport, Switching and Routing in optical domain, optical network management, Internetworking.</li> <li>6. Network security :<br/> Basic cryptographic techniques, security in OSI architecture, internet and networked computing, Kerberos, firewalls, proxy, etc. Security applications in commerce and banking.</li> <li>7. IP Telephony :<br/> VOIP system architecture, protocol hierarchy, structure of a voice endpoint,</li> </ol> |                          |

Protocols for the transport of voice media over IP networks, Providing IP quality of service for voice, signaling protocols for VOIP,PSTN gateways, VOIP applications.

8. Storage Networks :

Introduction, challenges, SCSI protocols and architecture: RAID, Backup and mirroring, Fiber channel attached storage. Network attached storage including NFS, CIFS, and DAFS, Management of network storage architectures. New storage protocols, architectures and enabling technologies.

9. Compression :

Overview of Information Theory, Lossless Compression: Run-Length Encoding, Facsimile compression, String Matching algorithms. Lossy compression: DCT, Wavelet compression.

BOOKS

**References:**

1. Stallings. W.-"High Speed Networks and Internets: Performance and Quality of service",Prelice Hall 2002
2. Kershenbaum A.-"Telecommunications Network Design Algorithms" Tata McGraw Hill.
3. Ramaswami R. ,Shivrajan K-"Optical Networks", Morgan Kaufmann.
4. Douskalis B.-"IP Telephony: The Integration of Robust VOIP service",Perason Education Asia.
5. Douglas E.Comer-"Computer NetWorks and Internet", Pearson Education Asia.
6. Stallings W.-"High Speed Networks :TCP/IP and ATM Design principles", Prentice Hall,1998.
7. Andrew Tanenbaum- "Computer Network", PHI.

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                          |
|---|--------------------------|
| <b>FIRST YEAR TERM I</b>  |                          |
| <b>SUBJECT: APPLIED ALGORITHMS</b>  |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>Algorithm design and analysis is a fundamental and important part of computer science. This course introduces students to advanced techniques for the design and analysis of algorithms, and explores a variety of applications.   |                          |
| <b>Pre-requisites:</b><br>Knowledge of Algorithms, Discrete structure and graph theory.   |                          |
| <b>DETAILED SYLLABUS</b>  |                          |
| <ol style="list-style-type: none"> <li><b>1. Introduction:</b> The role of algorithms in computing, analyzing algorithms, designing algorithms, growth of functions- asymptotic notation, standard notations and common functions, recurrences- the substitution method, the recursion tree method, the master method.</li> <li><b>2. Advanced data structures</b> Red - black trees- properties of red-black trees, rotations, insertion, deletion, B-trees-definition of B-Tree, basic operations on B-Tree, deleting a key from B-Tree, Binomial heaps- binomial trees and binomial heaps, operations on binomial heaps, Fibonacci heaps- structure of Fibonacci heaps, mergeable heap operations, decreasing a key and deleting a node, bounding the maximum degree.</li> <li><b>3. Advanced Design and Analysis Techniques</b> Dynamic Programming- assembly line scheduling, matrix chain multiplication, elements of dynamic programming, longest common subsequence, optimal binary search trees, Greedy Algorithms- an activity selection problem, elements of greedy strategy, Huffman codes, Amortized Analysis- aggregate analysis, the accounting method, the potential method.</li> <li><b>4. Graph algorithms</b> Minimum Spanning Trees- growing a minimum spanning tree, the algorithms of Kruskal and Prim, Single-source shortest paths- the Bellman-Ford algorithm, Single-source shortest path in directed acyclic graphs, Dijkstra's algorithm, all pair shortest paths- shortest path and matrix multiplication, the Floyd-Warshall algorithm, Johnson's algorithm for sparse graphs.</li> <li><b>5. Sorting networks</b> Comparison networks, the zero-one principle, a bitonic sorting networks, a merging network, a sorting network</li> </ol> |                          |
| <b>BOOKS</b>  |                          |
| <b>Text Books:</b>  |                          |
| <ol style="list-style-type: none"> <li>1. Corman, Leiserson, Rivest, Stein, "Introduction To Algorithms", PHI, 2<sup>nd</sup> Edition.</li> <li>2. Horowitz, Sahni, Rajasekaran, "Fundamentals of Computer Algorithms", Universities Press, 2<sup>nd</sup> Edition.</li> </ol>  |                          |
| <b>References:</b>  |                          |
| <ol style="list-style-type: none"> <li>1. Aho, "Design and Analysis of Algorithms", Pearson, LPE</li> <li>2. A V Aho, J. D. Ullman, "Design and analysis of algorithms", Pearson LPE.</li> <li>3. Bressard, Bratly, "Fundamentals of Algorithms", Pearson LPE/PHI</li> </ol>  |                          |



| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>  |                          |
|--|--------------------------|
| <b>FIRST YEAR TERM I</b>   |                          |
| <b>SUBJECT: EMBEDDED SOFTWARE DESIGN<br/>(ELECTIVE-I)</b>  |                          |
| <b>Lectures: 3 Hrs per week</b>  | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>After successfully completing the module student should be :<br>Capable of actively participating or successfully managing a embedded software development project by applying design life cycle concepts, able to demonstrate knowledge of real time constraint with concepts of RTOS as well as porting of any RTOS   |                          |
| <b>Pre-requisites:</b><br>Knowledge of Microprocessors and Microcontrollers and their interfacing  |                          |
| DETAILED SYLLABUS  |                          |
| <ol style="list-style-type: none"> <li>1. Embedded Design Life Cycle: Introduction Product Specification ,Hardware/Software partitioning , Iteration and Implementation, Detailed hardware and software Design, Hardware/Software Integration ,Product Testing and Release, Maintaining and upgrading existing products.</li> <li>2. Selection Process &amp; Development Environment: RTOS availability, Tool Chain availability, The Execution Environment, On chip Peripherals ,Debugging &amp; Testing : BDM, JTAG, NEXUS &amp; ICE</li> <li>3. Advanced Embedded Processors: ARM Embedded Systems, ARM Processor Fundamentals, Introduction to the ARM ,Instruction Set, Introduction to the Thumb Instruction Set ,Efficient C Programming Writing and Optimizing ARM Assembly Code, Digital Signal Processing, Exception and Interrupt Handling, Firmware</li> <li>4. Writing Software for Embedded Systems: The Compilation Process, Native Vs Cross-Compilers, and Runtime Libraries, Writing a Library, Using Alternative Libraries, using a standard library, porting Kernels extensions for embedded systems, Downloading, Emulation and Debugging techniques.</li> <li>5. RTOS - <math>\mu</math>C/OS-II: RTOS Services in Contrast to Traditional O.S. Sample Code, Real-Time Systems Concepts, Kernel Structure, Task Management, Time Management, Inter task Communication and Synchronization, , Memory Management, Porting <math>\mu</math>C/OS -II</li> <li>6. Understanding Linux Kernel:_Introduction, Memory Addressing , Processes , Interrupts and Exceptions, Timing Measurements, Memory Management, Process Address Space, System Calls ,Signals, Process Scheduling, Kernel Synchronization, The Virtual File system, Managing I/O Devices , Disk Caches , Accessing Regular Files, Swapping: Methods for Freeing Memory, The Ext2 Files system, Process Communication , Program Execution, Porting of Linux Kernel</li> <li>7. Understanding Windows Embedded CE Kernel: Introduction to Windows Embedded CE Kernel , Boot process, Memory Management, Files Database and Registry, Process and Threads, Communications , Porting of Linux Kernel</li> </ol> |                          |

## BOOKS

### **Text Books:**

1. Embedded Systems Design – Introduction to Processes, Tools, Techniques, Arnold S Burger, CMP books
2. Embedded Systems Design by Steave Heath, Newnes.
3. "ARM Systems Developers Guide Designing and Optimizing System Software"  
By Andrew N Sloss, Dominic Symes & Cheris Wright ELSEVIER Publication.
4. Understanding the Linux Kernel Daniel P. Bovet Marco Cesati Publisher: O'Reilly  
First Edition October 2000 ISBN: 0-596-00002-2, 702 pages
5. Building Embedded Linux Systems by Karim Yaghmour
6. Inside Microsoft Windows CE By John Murray

### **References:**

1. ARM System on chip architecture by Steve Furbur
2.  $\mu$ C/OS-II by Jean Labrosse [www.uCOS-II.com](http://www.uCOS-II.com)
3. Programming Microsoft Windows Embedded CE

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                          |
|---|--------------------------|
| <b>FIRST YEAR TERM I</b>  |                          |
| <b>SUBJECT: DIGITAL IMAGE and VIDEO PROCESSING<br/>(ELECTIVE-I)</b>   |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <p><b>Objective:</b> Digital Image Processing is a rapidly evolving field with growing applications in science and engineering. Image processing holds the possibility of developing the ultimate machine that could perform the visual functions of all living beings. There is an abundance of image processing applications that can serve mankind with the available and anticipated technology in the near future.</p>   |                          |
| <p><b>Pre-requisites:</b> Digital Signal Processing, &amp; Computer Graphics</p>  |                          |
| DETAILED SYLLABUS   |                          |
| <ol style="list-style-type: none"> <li>1. <b>Digital Image Processing Systems:</b> Introduction, Structure of human eye, Image formation in the human eye, Brightness adaptation and discrimination, Image sensing and acquisition, Storage, Processing, Communication, Display. Image sampling and quantization, Basic relationships between pixels</li> <li>2. <b>Image Transforms (Implementation):</b> Introduction to Fourier transform, DFT and 2-D DFT, Properties of 2-D DFT, FFT, IFFT, Walsh transform, Hadamard transform, Discrete cosine transform, Slant transform, Optimum transform: Karhunen - Loeve (Hotelling) transform.</li> <li>3. <b>Image Enhancement in the Spatial Domain:</b> Gray level transformations, Histogram processing, Arithmetic and logic operations, Spatial filtering: Introduction, Smoothing and sharpening filters</li> <li>4. <b>Image Enhancement in the Frequency Domain:</b> Frequency domain filters: Smoothing and Sharpening filters, Homomorphic filtering</li> <li>5. <b>Wavelets and Multiresolution Processing:</b> Image pyramids, Subband coding, Haar transform, Series expansion, Scaling functions, Wavelet functions, Discrete wavelet transforms in one dimensions, Fast wavelet transform, Wavelet transforms in two dimensions</li> <li>6. <b>Image Data Compression:</b> Fundamentals, Redundancies: Coding, Interpixel, Psycho-visual, Fidelity criteria, Image compression models, Error free compression, Lossy compression, Image compression standards: Binary image and Continuous tone still image compression standards, Video compression standards.</li> <li>7. <b>Morphological Image Processing:</b> Introduction, Dilation, Erosion, Opening, Closing, Hit-or-Miss transformation, Morphological algorithm operations on binary images, Morphological algorithm operations on gray-scale images</li> <li>8. <b>Image Segmentation:</b> Detection of discontinuities, Edge linking and Boundary detection, Thresholding, Region based segmentation</li> <li>9. <b>Image Representation and Description:</b> Representation schemes, Boundary descriptors, Regional descriptors</li> <li>10. <b>Introduction to Video Processing:</b> Spatio-temporal sampling, inter frame and intraframe coding, motion estimation techniques, video compression standards.</li> </ol> |                          |

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| BOOKS   |
| <b>Text Books:</b>  |
| 1. R.C.Gonsales R.E.Woods, "Digital Image Processing", Second Edition, Pearson Education<br>2. Anil K.Jain, "Fundamentals of Image Processing", PHI<br>3. K. R rao and J.J. Hawang, "Techniques and Standards for Video and Audio Coding", Prentice Hall PTR  |
| <b>References:</b>  |
| 1. William Pratt, "Digital Image Processing", John Wiley<br>2. Milan Sonka,Vaclav Hlavac, Roger Boyle, "Image Processing, Analysis, and Machine Vision" Thomson Learning<br>3. N Ahmed & K.R. Rao, "Orthogonal Transforms for Digital Signal Processing" Springer<br>4. B. Chanda, D. Dutta Majumder, "Digital Image Processing and Analysis", PHI. |

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                          |
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| <b>FIRST YEAR TERM I</b>  |                          |
| <b>SUBJECT: MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE (ELECTIVE-I)</b>   |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>The purpose of this course is to develop mathematical foundations for computer science and computer engineering. In addition, applications of mathematical principles to computer science and engineering are presented.   |                          |
| <b>Pre-requisites:</b><br>Knowledge of Theory of Computer Science, Discrete Structure and Graph Theory.   |                          |
| DETAILED SYLLABUS   |                          |
| <p><b>1. Probability and Information Theory.</b><br/>         Introduction. Basic Concept of Probability. Properties. Basic Calculation. Random Variables and their Probability Distributions. Birthday Paradox. Information Theory. Redundancy in Natural Languages.</p> <p><b>2. Computational Complexity.</b><br/>         Introduction. Turing Machines. Deterministic Polynomial Time. Probabilistic Polynomial Time. Non-deterministic Polynomial Time. Non-Polynomial Bounds. Polynomial-time Indistinguishability.</p> <p><b>3. Algebraic Foundations.</b><br/>         Introduction. Groups. Rings and Fields. The Structure of Finite Fields. Group Constructed Using Points on an Elliptic Curve.</p> <p><b>4. Number Theory.</b><br/>         Introduction. Congruences and Residue Classes. Euler's Phi Function. The Theorems of Fermat, Euler and Lagrange. Quadratic Residues. Square Roots Modulo Integer. Blum Integers.</p> <p><b>5. Fuzzy Logic</b><br/>         Operations of fuzzy sets, fuzzy arithmetic &amp; relations, fuzzy relations equations, MATLAB introduction, programming in MATLAB scripts, functions and their Applications<br/>         Case study: Development of fruit sorting system using fuzzy logic in MATLAB</p> |                          |
| BOOKS   |                          |
| <b>Text Books:</b>  |                          |
| 1. Modern Cryptography: Theory and Practice by Wenbo Mao, Low Price Edition, Pearson Education  |                          |
| <b>References:</b>  |                          |
| 1. Fuzzy logic in engineering by T. J. Ross, Willey Publications<br>2. Fuzzy sets theory and its applications, H.J. Zimmermann, Kluwer Academic Publications, 4 <sup>th</sup> edition.<br>3. Elements of Discrete Mathematics, C.L.Liu, TMH, 2 <sup>nd</sup> edition  |                          |

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| <p align="center"><b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br/> <b>FIRST YEAR TERM I</b></p>  |                          |
| <p align="center"><b>SUBJECT: SOFTWARE PROJECT MANAGEMENT<br/>(ELECTIVE-I)</b></p>   |                          |
| <b>Lectures: 3 Hrs per week</b>  | <b>Theory: 100 Marks</b> |
| <p><b>Objective:</b><br/> After successfully completing the module student should be :<br/> Capable of actively participating or successfully managing a software development project by applying project management concepts, able to demonstrate knowledge of project management terms and techniques</p>  |                          |
| <p><b>Pre-requisites:</b><br/> Knowledge of Software Engineering.</p>  |                          |
| <p>DETAILED SYLLABUS</p>   |                          |
| <ol style="list-style-type: none"> <li>1. Introduction to Project Management: Importance of software project management, stages and stakeholders of a software project, elements of software project, Importance of software project management, Stages of Project, The Stakeholder of Project, Project Management Framework, Software Tools for Project Management.</li> <li>2. Project Planning: Integration Management, Scope Management, Stepwise Project Planning, Use of Software (Microsoft Project) to Assist in Project Planning Activities.</li> <li>3. Project Scheduling: Time Management, Project Network Diagrams, Use of Software (Microsoft Project) to Assist in Project Scheduling.</li> <li>4. Project Cost Management: Importance and Principles of Project Cost Management, Resource Planning, Cost Estimating, Cost Control, Use of Software (Microsoft Project) to assist in Cost Management.</li> <li>5. Project Quality Management: Quality of Information Technology Projects, Stages of Software Quality Management, Quality Standards, Tools and Techniques For Quality Control.</li> <li>6. Project Human Resources Management: Human Resources Management, Keys to Managing People, Organizational Planning, Issues in Project Staff Acquisition and Team Development, Using Software to Assist in Human Resource Management.</li> <li>7. Project Communication Management: Communications Planning, Information Distribution, Performance Reporting, Administrative Closure, Suggestions for Improving Project Communications, Using Software to Assist in Project Communications.</li> <li>8. Project Risk Management: The Importance of Project Risk Management, Common Sources of Risk in IT projects, Risk Identification, Risk Quantification, Risk Response Development and Control, Using Software to Assist in Project Risk Management.</li> <li>9. Project Procurement Management: Importance of Project Procurement Management, Procurement Planning, Solicitation, Source Selection, Contract Administration, Contract Close-out.</li> </ol> |                          |

10. Project Management Process Groups: Introduction to Project Management Process Groups, Project Initiation, Project Planning, Project Executing, Project Controlling and Configuration Management, Project Closing.

#### BOOKS

##### **Text Books:**

- 1.Kathy Schwalbe, "Information Technology Project Management", International Student Edition, THOMSON Course Technology
- 2.Bob Hughes and Mike Cotterell, "Software Project Management" Third Ed., Tata McGraw-Hill
- 3.Elaine Marmel, "Microsoft Office Project 2003 Bible", Wiley Publishing Inc.

##### **References:**

- 1.Basics of Software Project Management, NIIT, Prentice-Hall India
- 2.Pankaj Jalote, "Software Project Management in Practice", Pearson Education
- 3.S.A. Kelkar, "Software Project Management", A Concise Study, Revised Edition, PHI

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| <p align="center"><b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br/> <b>FIRST YEAR TERM I</b></p>  |   |
| <p align="center"><b>SUBJECT: Laboratory Practice-I</b></p>  |   |
| <p><b>Practical: 6 Hrs per week</b></p>  | <p><b>Term Work: 100 Marks</b><br/> <b>Oral: 50 marks</b></p> |
| <p>DETAILED SYLLABUS</p>   |   |
| <p>Experiments/Assignments based on</p> <ol style="list-style-type: none"> <li>1. Advanced Software Engineering</li> <li>2. Net-Centric Computing</li> <li>3. Elective- I</li> </ol> <p>The concerned subject in-charge should frame minimum of six laboratory assignments, two from each subject.</p> |   |



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| <p align="center"><b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br/> <b>FIRST YEAR TERM I</b></p>  |                                    |
| <p align="center"><b>SUBJECT: Seminar-I</b></p>  |                                    |
| <p><b>Practical: 4 Hrs per week</b></p>  | <p><b>Term Work: 100 Marks</b></p> |
| <p>DETAILED SYLLABUS</p>   |                                    |
| <p>Seminar on related state of the art topic of student's own choice approved by the department.</p>   |                                    |
| <p>TERM WORK</p>   |                                    |
| <p>1.The term-work &amp; presentation of the Seminar-I will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.</p> |                                    |

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br><b>FIRST YEAR TERM II</b>  |                          |
| <b>SUBJECT: ADVANCED DATABASE MANAGEMENT SYSTEMS</b>  |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b> The course gives an overview of motivation and background of the new developments, and is intended as an introduction to the most important advances with respect to the classical relational database systems.   |                          |
| <b>Pre-requisites:</b><br>Knowledge of Database Management System, Operating System.  |                          |
| DETAILED SYLLABUS   |                          |
| <p><b>1. The Extended Entity Relationship Model and Object Model</b></p> <ul style="list-style-type: none"> <li>(a) The ER model revisited</li> <li>(b) Motivation for complex data types</li> <li>(c) User defined abstract data types and structured types</li> <li>(d) Subclasses</li> <li>(e) Superclasses</li> <li>(f) Inheritance</li> <li>(g) Specialization and generalization</li> <li>(h) Relationship types of degree higher than two</li> </ul> <p><b>2. Object–Oriented Databases</b></p> <ul style="list-style-type: none"> <li>(a) Overview of object–oriented concepts</li> <li>(b) Object identity</li> <li>(c) Object structure and type constructors</li> <li>(d) Encapsulation of operations</li> <li>(e) Methods and persistence</li> <li>(f) Type hierarchies and inheritance</li> <li>(g) Type extents and persistent programming languages</li> <li>(h) OODBMS architecture and storage issues</li> <li>(i) Transactions and concurrency control</li> <li>(j) Examples of ODBMS</li> </ul> <p><b>3. Object Relational and Extended Relational Databases</b></p> <ul style="list-style-type: none"> <li>(a) Database design for an ORDBMS</li> <li>(b) Nested relations and collections</li> <li>(c) Storage and access methods</li> <li>(d) Query processing and optimization</li> <li>(e) An overview of SQL3</li> <li>(f) Implementation issues for extended type</li> <li>(g) Systems comparison of RDBMS</li> <li>(h) OODBMS</li> <li>(i) ORDBMS</li> </ul> |                          |

#### **4. Paralled and Distributed Databases and Client–Server Architecture**

- (a) Architectures for parallel databases
- (b) Parallel query evaluation
- (c) Parallelizing individual operations
- (d) Sorting Joins
- (e) Distributed database concepts
- (f) Data fragmentation
- (g) Replication and allocation techniques for distributed database design
- (h) Query processing in distributed databases
- (i) Concurrency control and recovery in distributed databases
- (j) An overview of client–server architecture

#### **5. Enhanced Data Models for Advanced Applications**

- (a) Active database concepts
- (b) Temporal database concepts
- (c) Spatial databases: concept and architecture
- (d) Deductive databases and query processing
- (e) Mobile databases
- (f) Geographic information systems

#### **BOOKS**

##### **Text Books:**

- 1.Elmsari and Navathe, Fundamentals of Database Systems
- 2.Ramakrishnan and Gehrke, Database Management Systems.

##### **References:**

1. Korth, Silberschatz, Sudarshan, Database System Concepts
2. Rob and Coronel, Database Systems: Design, Implementation and Management
3. Date and Longman, Introduction to Database Systems

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br><b>FIRST YEAR TERM II</b>   |                          |
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| <b>SUBJECT: WEB ENGINEERING</b>  |                          |
| <b>Lectures: 3 Hrs per week</b>  | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>Provides an introduction to the discipline of Web Engineering. This course aims to introduce the methods and techniques used in Web-based system development. In contrast to traditional Software Engineering efforts, Web Engineering methods and techniques incorporate unique aspects of the problem domain such as: document oriented delivery, fine-grained lifecycles, user-centric development, client-server legacy system integration and diverse end user skill levels.   |                          |
| <b>Pre-requisites:</b><br>Knowledge of both Internet communication concepts and an introductory programming knowledge (Java & Javascript).   |                          |
| DETAILED SYLLABUS  |                          |
| <ol style="list-style-type: none"> <li><b>An Introduction to Web Engineering:</b> Categories of Web Applications, Characteristics of Web</li> <li><b>Requirements Engineering for Web Applications:</b> Requirements, Engineering Activities, RE Specifics in Web Engineering, Principles for RE of Web, Adapting RE Methods to Web Application Development, Requirement Types.</li> <li><b>Modeling Web Applications:</b> Modeling Specifics in Web Engineering, Levels, Aspects, Phases,</li> <li>Customization, Modeling Requirements, Content Modeling, Hypertext Modeling, Presentation Modeling, Customization Modeling, Methods and Tools.</li> <li><b>Web Application Architectures:</b> Fundamentals, Specifics of Web Application Architectures, Components of a Generic Web Application Architecture, Layered Architectures, Data-aspect Architectures.</li> <li><b>Technology-aware Web Application Design:</b> Web Design from an Evolutionary Perspective, Presentation Design, Interaction Design, Functional Design, Context-aware Applications, Device-independent Applications, Reusability.</li> <li><b>Technologies for Web Applications:</b> Client/Server Communication on the Web, Client-side Technologies, Document-specific Technologies, Server-side Technologies.</li> <li><b>Testing Web Applications:</b> Fundamentals, Test Specifics in Web Engineering, Test Approaches, Test Scheme, Test Methods and Techniques, Test Automation.</li> <li><b>Operation and Maintenance of Web Applications:</b> Challenges Following the Launch of a Web Application, Promoting a Web Application, Content Management, Usage Analysis, From Software Project Management to Web Project Management.</li> <li><b>Web Project Management:</b> Challenges in Web Project Management, Managing Web Teams, Managing the Development Process of a Web Application.</li> </ol> |                          |

11. **The Web Application Development Process:** Requirements for a Web Application Development Process, Analysis of the Rational Unified Process, Analysis of Extreme Programming.
12. **Usability of Web Applications:** Design Guidelines, Web Usability Engineering Methods, Web Usability Engineering Trends.
13. **Performance of Web Applications:** System Definition and Indicators, Characterizing the Workload, Representing and Interpreting Results, Performance Optimization Methods.
14. **Security for Web Applications:** Aspects of Security, Encryption, Digital Signatures and Certificates, Secure Client/Server-Interaction, Client Security Issues, Service Provider Security Issues.
15. **The Semantic Web – The Network of Meanings in the Network of Documents:** Fundamentals of the Semantic Web, Technological Concepts, Specifics of Semantic Web Applications.

## BOOKS

### Text Books:

1. Gerti Kappel, Birgit Pfeiffer, Siegfried Reich, Werner Retschitzegger, "Web Engineering: The Discipline of Systematic Development of Web Applications", John Wiley
2. Pressman, Roger S. and Lowe, David, "Web Engineering: A Practitioner's Approach", McGraw-Hill Higher Education

### References:

1. Mishra, "Web Engineering And Applications", Macmillan Publishers India
2. Emilia Mendes, and Nile Mosley, "Web Engineering", Springer

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>  |                          |
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| <b>FIRST YEAR TERM II</b>  |                          |
| <b>SUBJECT: Parallel Computing</b>   |                          |
| <b>Lectures: 3 Hrs per week</b>  | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>Upon completion of this course students will be able to understand and employ the fundamental concepts and mechanisms which form the basis of the design of parallel computation models and algorithms, recognize problems and limitations to parallel systems, as well as possible solutions   |                          |
| <b>Pre-requisites:</b><br>Computer architecture, Data structures.  |                          |
| <b>DETAILED SYLLABUS</b>   |                          |
| 1.Introduction:<br>Need, Models of computation, SISD, MISD,SIMD-Shared Memory SIMD, Interconnection network SIMD, MIMD, Programming MIMD, Special Purpose Architecture, Analysis of algorithm, Running time, No of processors, Cost, Other Measures-Area, Length, Period, Expressing Algorithm.<br>2.Parallel processing:<br>parallel computer structure, designing of parallel algorithms, analyzing algorithms, general principles of parallel computing.<br>3. Parallel sorting algorithms<br>Batcher's bitonic sort, Bitonic sort using the perfect Shuffle, parallel bubble sort, Odd- even transpose sort, Tree sort.<br>4. Quick Sort:<br>Parallel Quick sort for CRCW PRAM, Parallel formulation for practical architectures,Shared Address space parallel formulation, message passing parallel formulation, pivot selection.<br>5. Sorting:<br>Sorting on the CRCW, CRFW, EREW models, searching a sorted sequence, CREW,CRCW & EREW searching, searching on a random sequence EREW, ERCW, CREW & CRCW searching on SIMD computers, searching on a Tree, mesh, A Network for merging, merging on the CRFW, ERFW models<br>6. Computing Fourier Transforms:<br>Computing the DFT in parallel, a parallel FFT algorithm. |                          |
| <b>BOOKS</b>   |                          |
| <b>References:</b>   |                          |
| 1. Design & Analysis of Parallel Algorithm by Salim & Akil, PHI.<br>2. Design Efficient Algorithm for Parallel Computers by Michel J. Quinn, TMH.  |                          |

| <b>M.E. COMPUTER SCIENCE &amp; ENGINEERING</b><br><b>FIRST YEAR TERM II</b>   |                          |
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| <b>SUBJECT: SOFT COMPUTING</b>  |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>By the end of the course a student is expected to become able to apply Genetic Algorithms, Fuzzy Logic and Artificial Neural Networks as computational tools to solve a variety of problems in their area of interest ranging from Optimization problems to Pattern recognition and control tasks.   |                          |
| <b>Pre-requisites:</b><br>The prerequisite for this course is a basic understanding of problem solving, design and analysis of algorithms and computer programming. A prior course in Artificial Intelligence will be an advantage.   |                          |
| <b>DETAILED SYLLABUS</b>  |                          |
| <ol style="list-style-type: none"> <li>1. Introduction to soft computing, Biological Neuron, Artificial Neuron, Characteristics of Neural Network, Neural Network Architectures, Learning in Neural Networks, Various learning Methods and Learning Rules, Single layer Perceptron, training and classification, Linear Separable classification, Applications of Neural Networks for Pattern Recognition, Classification and Clustering.</li> <li>2. Introduction to Multilayer Perceptron, various activation functions, Delta and Generalized Delta Learning rule, Error Back Propagation training and algorithm, Counter Propagation Network, Boltzman Machine.</li> <li>3. Recurrent Network, configuration, stability, Associative Memory: Concepts, performance analysis, BAM, ART.</li> <li>4. Self-organizing Networks: Unsupervised Learning, Self-organized Map.</li> <li>5. Introduction to fuzzy sets and fuzzy logic systems, Fuzzy set definitions, operations, Fuzzy rules, Fuzzy reasoning. Fuzzy inference systems, Fuzzy models.</li> <li>6. Introduction to Genetic Algorithms, Biological Inspiration, The Genetic Algorithm, Genetic Operators, Genetic Algorithm through example, Sample problems, Genetic Algorithm Implementation, Tweaking the Parameters and Process, Various Problems with Genetic Algorithm.</li> <li>7. Applications of Neural Network, Fuzzy Logic, Genetic Algorithms: Signal Processing, Image Processing, Pattern Recognitions, communication systems, Biological Sequence Alignment and Drug Design, Robotics and Sensors, Information Retrieval Systems, Share Market Analysis, Natural Language Processing.</li> </ol> |                          |
| <b>BOOKS</b>  |                          |
| <b>Text Books:</b>  |                          |
| <ol style="list-style-type: none"> <li>1. J.M.Zurda, "Introduction to Artificial Neural Networks", Jaico Publishing House.</li> <li>2. D. E. Goldberg, "Genetic Algorithms in Search and Optimization, and Machine Learning", Addison-Wesley, 1989.</li> </ol>  |                          |

3. Jang, Sun, & Mizutani, "Neuro-Fuzzy and Soft Computing", PHI.
4. M. Mitchell, "An Introduction to Genetic Algorithms", Prentice-Hall, 1998.

References:

1. S. Haykin, "Neural Networks", Pearson Education, 2<sup>nd</sup> Ed., 2001.
2. Klir & Yuan, "Fuzzy Sets and Fuzzy Logic", PHI, 1997.
3. Chin-Teng Lin & C. S. George Lee, "Neural Fuzzy Systems", Prentice Hall PTR.
4. S. Rajasekaran & G. A. V. Pai, "Neural Networks, Fuzzy logic, and Genetic Algorithms", PHI.
5. V. Kecman, "Learning and Soft Computing", MIT Press, 2001.
6. S. N. Sivanandam & S. N. Deepa, Principles of Soft Computing, Wiley - India, 2007
7. D. E. Goldberg, Genetic Algorithms in Search, Optimization, and Machine Learning, Addison-Wesley, 1989.



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| <p align="center"><b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br/> <b>FIRST YEAR TERM II</b></p>  |                          |
| <p align="center"><b>SUBJECT: SOFTWARE TESTING AND QUALITY ASSURANCE<br/>(ELECTIVE-II)</b></p>  |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <p><b>Objective:</b><br/> After successfully completing the module student should be able to apply the testing fundamentals and testing skill to validate and verify the software system, also able to demonstrate knowledge of testing strategies by applying the different testing tools.</p>   |                          |
| <p><b>Pre-requisites:</b><br/> Knowledge of Software Engineering.</p>   |                          |
| <p>DETAILED SYLLABUS</p>  |                          |
| <ol style="list-style-type: none"> <li>1. Software Testing Background: Infamous Software Error Case Studies, What Is a Bug? Why Do Bugs Occur? The Cost of Bugs, What Exactly Does a Software Tester Do? What Makes a Good Software Tester? The Software Development Process, Product Components, Software Project Staff, Software Development Lifecycle, Models, The Realities of Software Testing, Testing Axioms, Software Testing Terms and Definitions.</li> <li>2. Testing Fundamentals : Examining the Specification, Performing a High-Level Review of the Specification, Low-Level Specification, Test Techniques, Black-Box Testing, Test-to-Pass and Test-to-Fail, Equivalence Partitioning, Data Testing, State Testing, Other Black-Box Test Techniques, Examining the Code, Static White-Box Testing: Examining the Design and Code, Formal Reviews, Coding Standards and Guidelines, Generic Code Review, Checklist, Testing the Software with X-Ray Glasses, Dynamic White-Box Testing, Dynamic White-Box Testing Versus Debugging, Testing the Pieces, Data Coverage, Code Coverage</li> <li>3. Applying Testing Skills: Configuration Testing, An Overview of Configuration Testing, Approaching the Task, Obtaining the Hardware, Identifying Hardware Standards, Configuration Testing Other Hardware, Compatibility Testing, Compatibility Testing Overview, Platform and Application Versions, Standards and Guidelines, Data Sharing Compatibility, Foreign-Language Testing, Making the Words and Pictures Make Sense, Translation Issues, Localization Issues, Configuration and Compatibility Issues, How Much Should You Test? Usability Testing, User Interface Testing, ,What Makes a Good UI?, Testing for the Disabled: Accessibility Testing,</li> <li>4. Testing the Documentation: Types of Software Documentation, The Importance of Documentation Testing, What to Look for When Reviewing Documentation, The Realities of Documentation Testing, Testing for Software Security, War Games the Movie, Understanding the Motivation, Threat Modeling, Is Software Security a Feature? Is Security Vulnerability a Bug? Understanding the Buffer Overrun, Using Safe String Functions, Computer Forensics, Website Testing, Web Page Fundamentals, Black-Box Testing, Gray-Box Testing, White-Box Testing, Configuration and Compatibility Testing, Usability Testing, Introducing Automation.</li> </ol> |                          |

5. Supplementing Testing: Automated Testing and Test Tools ,The Benefits of Automation and Tools, Test Tools, Software Test Automation, Random Testing, Realities of Using Test Tools and Automation, Bug Bashes and Beta Testing, Having Other People Test Your Software, Test Sharing, Beta Testing, Outsourcing Your Testing
6. Working with Test Documentation: Planning Your Test Effort, The Goal of Test Planning, Test Planning, Writing and Tracking Test Cases, The Goals of Test Case Planning, Test Case Planning Overview, Test Case Organization and Tracking, Reporting What You Find, Getting Your Bugs Fixed, Isolating and Reproducing Bugs, Not All Bugs Are Created Equal, A Bug's Life Cycle, Bug-Tracking Systems , Measuring Your Success, Using the Information in the Bug Tracking Database
7. The Future: Software Quality Assurance, Quality Is Free, Testing and Quality Assurance in the Workplace, Test Management and Organizational Structures, Capability Maturity Model (CMM),ISO 9000, Software Quality and Software Metrics.

#### BOOKS

#### References:

- 1.Ron Patton, "Software Testing", Pearson publication.
- 2.Roger S Pressman, "Software Engineering: A Practitioner's Approach" 6<sup>th</sup> Edition, McGraw Hill,2005.
- 3.Marine Hutcheson, "Software Testing Fundamentals: Methods and Metrics", John Wiley Publication,2003.

| <b>M.E. COMPUTER SCIENCE &amp; ENGINEERING</b><br><b>FIRST YEAR TERM II</b>   |                          |
|---|--------------------------|
| <b>SUBJECT: CRYPTOGRAPHY AND NETWORK SECURITY</b><br><b>(ELECTIVE-II)</b>   |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>The course introduces the principles of number theory and the practice of network security and cryptographic algorithms. At the end of the course the student will understand: Data Encryption Standard and algorithms, IP and Web Security, Protocols for secure electronic commerce, Concepts of Digital Watermarking and Steganography.   |                          |
| <b>Pre-requisites:</b><br>Probability theory and Discrete Mathematics   |                          |
| <b>DETAILED SYLLABUS</b>  |                          |
| <ol style="list-style-type: none"> <li>1. Foundations of Cryptography and Security Ciphers and Secret Messages, Security Attacks and Services</li> <li>2. Mathematical Tools for Cryptography Substitutions and Permutations, Modular Arithmetic, Euclid's Algorithm, Finite Fields, Polynomial Arithmetic, Discrete Logarithms</li> <li>3. Conventional Symmetric Encryption Algorithms Theory of Block Cipher Design Feistel Cipher Network Structures, DES and Triple DES, Modes of Operation (ECB,CBC, OFB,CFB), Strength (or Not) of DES</li> <li>4. Modern Symmetric Encryption Algorithms IDEA, CAST, Blowfish, Twofish, RC2, RC5, Rijndael (AES) Key Distribution</li> <li>5. Stream Ciphers and Pseudo Random Numbers, Pseudo random sequences, Linear Congruential Generators, Cryptographic Generators, Design of Stream Cipher, One Time Pad</li> <li>6. Public Key Cryptography, Prime Numbers and Testing for Primality, Factoring Large Numbers, RSA, Diffie-Hellman, ElGamal, Key Exchange Algorithms, Public-Key Cryptography Standards</li> <li>7. Hashes and Message Digests Message Authentication, MD5, SHA, RIPEMD, HMAC</li> <li>8. Digital Signatures, Certificates, User Authentication, Digital Signature Standard (DSS and DSA), Security Handshake Pitfalls, Elliptic Curve Cryptosystems</li> <li>9. Authentication of Systems Kerberos V4 and V5, X.509 Authentication Service</li> <li>10. Electronic Mail Security Pretty Good Privacy (PGP), S/MIME, X.400</li> <li>11. 12 3/28 IP and Web Security Protocols IPSec and Virtual Private Networks, Secure Sockets and Transport Layer (SSL and TLS)</li> <li>12. Electronic Commerce Security, Electronic Payment Systems, Secure Electronic Transaction (SET), CyberCash, iKey Protocols, Ecash (DigiCash)</li> <li>13. Intrusion detection – password management – Viruses and related Threats – Virus Counter measures – Firewall Design Principles – Trusted Systems</li> <li>14. Digital Watermarking and Steganography, Biometrics for security- signature verification, figure print recognition, voice recognition, Iris recognition system.</li> </ol> |                          |

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| BOOKS   |
| Text Books:   |
| <ol style="list-style-type: none"><li>1. William Stalling, "Cryptography and Network Security, Principles and Practice", Pearson/PHI Publication</li><li>2. B A Forouzan, "Cryptography and Network Security", TMH</li></ol>  |
| References:   |
| <ol style="list-style-type: none"><li>1. Bruce Schneier, "Applied Cryptography", John Wiley &amp; Sons Inc</li><li>2. Charles B. Pfleeger, Shari Lawrence Pfleeger, "Security in Computing", Pearson Education</li><li>3. D Denning, "Cryptography and Data Security", Addison-Wesley</li></ol> |

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                          |
| <b>FIRST YEAR TERM II</b>   |                          |
| <b>SUBJECT: PATTERN RECOGNITION<br/>(ELECTIVE-II)</b>   |                          |
| <b>Lectures: 3 Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b> This course teaches the fundamentals of techniques for classifying multi-dimensional data, to be utilized for problem-solving in a wide variety of applications, such as engineering system design, manufacturing, technical and medical diagnostics, image processing, economics, and psychology.  |                          |
| <b>Pre-requisite:</b> Linear Algebra, Probability and Statistics  |                          |
| DETAILED SYLLABUS   |                          |
| <ol style="list-style-type: none"> <li>1. <b>Introduction:</b> Machine perception, Pattern recognition systems, Design cycle, Learning and Adaptation</li> <li>2. <b>Bayesian Decision Theory:</b> Bayesian decision theory: Continuous features, Minimum-error rate classification, classification, Classifiers, Discriminant functions and Decision surfaces, Normal density, Discriminant functions for normal density, Bayes Decision theory: discrete features</li> <li>3. <b>Maximum-Likelihood and Bayesian Parameter Estimation:</b> Maximum likelihood estimation, Bayesian estimation, Bayesian parameter estimation: Gaussian case and General theory, Problems of dimensionality, Hidden Markov Model</li> <li>4. <b>Nonparametric Techniques:</b> Density estimation, Parzen windows, <math>k_{nn}</math>-Nearest-Neighbor estimation, Nearest-Neighbor rule, Matrices and Nearest-Neighbor classification</li> <li>5. <b>Linear Discriminant Functions:</b> Linear discriminant functions and decision surfaces, Generalised linear discriminant functions, 2-Category linearly separable case, Minimising the Perceptron criterion function, Relaxation procedure, Non-separable behavior, Minimum squared error procedure, Ho-Kashyap procedures, Multicategory generalizations</li> <li>6. <b>Nonmetric Methods:</b> Decision tree, CART, ID3, C4.5, Grammatical methods, Grammatical interfaces</li> <li>7. <b>Algorithm Independent Machine Learning:</b> Lack of inherent superiority of any classifier, Bias and Variance, Resampling for estimating statistic, Resampling for classifier design, Estimating and comparing classifiers, Combining classifiers</li> <li>8. <b>Unsupervised Learning and Clustering:</b> Mixture densities and Identifiability, Maximum-Likelihood estimations, Application to normal mixtures, Unsupervised Bayesian learning, Data description and clustering criterion function for clustering, Hierarchical clustering</li> <li>9. <b>Applications of Pattern Recognition</b></li> </ol> |                          |
| BOOKS   |                          |
| <b>Text Books:</b>  |                          |
| <ol style="list-style-type: none"> <li>1. Duda, Hart, and Stock, "<i>Pattern Classification</i>", John Wiley and Sons.</li> <li>2. Gose, Johnsonbaugh and Jost, "<i>Pattern Recognition and Image analysis</i>", PHI</li> </ol>   |                          |

| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                          |
|---|--------------------------|
| <b>FIRST YEAR TERM II</b>   |                          |
| <b>SUBJECT: Mobile Computing<br/>(ELECTIVE-II)</b>  |                          |
| <b>Lectures: Hrs per week</b>   | <b>Theory: 100 Marks</b> |
| <b>Objective:</b><br>After successful completion of the course student should get knowledge about: Mobile Computing Architecture, mobile technologies: GSM, Bluetooth, GPRS, CDMA and should be capable to develop mobile computing applications.   |                          |
| <b>Pre-requisites:</b><br>Knowledge of Computer Networks.   |                          |
| <b>DETAILED SYLLABUS</b>  |                          |
| <ol style="list-style-type: none"> <li>1.Introduction: Mobile Computing, Dialogue Control, Networks, Middleware and Gateways, Application and Services, Developing Mobile Computing Applications, Security in Mobile Computing.</li> <li>2.Mobile Computing Architecture: Internet – The Ubiquitous Network, Architecture for Mobile Computing, Three-Tier Architecture, Design considerations for Mobile Computing, Mobile Computing through Internet, Making Existing Applications Mobile-Enabled.</li> <li>3.Emerging Technologies: Introduction, Bluetooth, Radio Frequency Identification, Wireless Broadband, Mobile IP, IPV6, Java card.</li> <li>4 Mobile Transport Layer: Traditional TCP - Congestion Control, Slow Start, Fast Retransmit/Fast Recovery, Implications on Mobility, Classical TCP Improvements - Indirect TCP, Snooping TCP, Mobile TCP, Fast Retransmit/Fast Recovery, Transmission/Time-Out Freezing, Selective Retransmission, Transaction Oriented TCP.</li> <li>5.Support for Mobility: File Systems – Consistency, Coda, Little work, Ficus, Mio-NFS, Rover, World Wide Web - Hypertext Transfer Protocol, Hypertext Markup Language, Some Approaches that Might Help Wireless Access, System Architectures, Wireless Application Protocol - Architecture, Wireless Datagram Protocol, Wireless Transport Layer Security, Wireless Transaction Protocol, Wireless Session Protocol, Wireless Application Environment, Wireless Markup Language, WML script, Wireless Telephony Application, Push Architecture, Push/Pull Services.</li> <li>6.Global System for Mobile Communications (GSM): Global System for Mobile Communications, GSM Architecture, GSM Entities, Call Routing in GSM, PLMN Interfaces, GSM Addresses and Identifiers, Network Aspects in GSM, GSM Frequency Allocation, Authentication and Security.</li> <li>7.General Packet Radio Service (GPRS): Introduction, GPRS and Packet Data Network, GPRS Network Architecture, GPRS Network Operations, Data Services in GPRS, Applications for GPRS, Limitations of GPRS, Billing and Charging in GPRS.</li> <li>8.CDMA and 3G: Introduction, Spread-Spectrum Technology, Is-95, CDMA versus GSM, Wireless Data, Third Generation Networks, Applications on 3G.</li> <li>9.Security Issues in Mobile Computing: Introduction, Information</li> </ol> |                          |

Security, Security Techniques and Algorithms, Security Protocols, Public Key Infrastructure, Trust, Security Models, Security Frameworks for Mobile Environment.

BOOKS

**Text Books:**

1. Talukder Asoke K. and Yavagal Roopa R ,” Mobile Computing (Technology, Applications and Service Creation) ”,Tata Mcgraw-Hill.
2. Jochen Schiller, Addison-Wesley, ”Mobile Communications ”,2<sup>nd</sup> Edition.

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b><br><b>FIRST YEAR TERM II</b>  |  |
| <b>SUBJECT: LABORATORY PRACTICE-II</b>  |  |
| <b>Practical: 6 Hrs per week</b>  | <b>Term Work: 100 Marks</b><br><b>Oral: 50 marks</b> |
| DETAILED SYLLABUS   |  |
| <p>Experiments/Assignments based on</p> <ol style="list-style-type: none"> <li>1. Advanced Database Management Systems</li> <li>2. Soft Computing</li> <li>3. Elective- II</li> </ol> <p>The concerned subject in-charge should frame minimum of six laboratory assignments, two from each subject.</p> |  |



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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |                             |
| <b>FIRST YEAR TERM II</b>   |                             |
| <b>SUBJECT: SEMINAR-II</b>  |                             |
| <b>Practical: 4 Hrs per week</b>  | <b>Term Work: 100 Marks</b> |
| DETAILED SYLLABUS   |                             |
| Seminar on related state of the art topic of student's own choice approved by the department.   |                             |
| TERM WORK   |                             |
| 1. The term-work & presentation of the Seminar-II will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department. |                             |

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |   |
| <b>SECOND YEAR TERM I</b>   |   |
| <b>SUBJECT: SEMINAR-III</b>   |   |
| <b>Practical: 4 Hrs per week</b>  | <b>Term Work: 50 Marks<br/>Oral: 50 Marks</b> |
| DETAILED SYLLABUS   |   |
| <p>Seminar on special topic. The topic should be on any of the area not included in the regular curriculum. The report should include detailed study of specific concept (i.e. analysis, design &amp; implementation.). This can be a theoretical study or practical implementation approved by the department/guide.</p>   |   |
| TERM WORK   |   |
| <ol style="list-style-type: none"> <li>1. Seminar-III should be conducted at the end of Second Year Term I.</li> <li>2. The term-work of the Seminar-III will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.</li> <li>3. The Seminar-III presentation will be evaluated by examiners appointed by University, one of which should be the guide.</li> <li>4. Student must submit the Seminar Report in the form of soft bound copy</li> <li>5. The marks of seminar-III should be submitted at the end of Second Year Term I to the University.</li> </ol> |   |

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>  |                             |
| <b>SECOND YEAR TERM I</b>  |                             |
| <b>SUBJECT: PROJECT STAGE-I</b>  |                             |
| <b>Practical: 18 Hrs per week</b>  | <b>Term Work: 100 Marks</b> |
| DETAILED SYLLABUS  |                             |
| Project will consist of a system Development in Software/Hardware. Project Work should be carried out using Software Engineering principles and practices.   |                             |
| TERM WORK  |                             |
| The term-work of the Project Stage-I will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department. |                             |

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>  |                            |
| <b>SECOND YEAR TERM II</b>   |                            |
| <b>SUBJECT: PROGRESS SEMINAR</b>   |                            |
|  | <b>Term Work: 50 Marks</b> |
| <ol style="list-style-type: none"> <li>1. Progress Seminar should be conducted in the middle of Second Year Term II.</li> <li>2. The Progress Seminar Term-Work will be evaluated by departmental committee consisting of guide and two faculty members of the department appointed by Director/Principal of the college as per the recommendation of the Head of the Department.</li> <li>3. Student must submit the progress report in the form of soft bound copy.</li> <li>4. The marks of progress seminar should be submitted along with the marks of Project Stage-II.</li> </ol> |                            |

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| <b><u>M.E. COMPUTER SCIENCE &amp; ENGINEERING</u></b>   |  |
| <b>SECOND YEAR TERM II</b>  |  |
| <b>SUBJECT: PROJECT STAGE-II</b>  |  |
| <b>Practical: 18 Hrs per week</b>   | <b>Term Work: 150 Marks</b><br><b>Oral:100 Marks</b> |
| <b>DETAILED SYLLABUS</b>  |  |
| <p>This is continuation of Project Stage-I. The complete System Development in software/hardware carried out using Software Engineering principles and practices is expected. It should be a working system either software or hardware or combination of both.</p> <p>He/she has to present/publish atleast one paper in reputed National/International Journal/Conference on his/her Project work before submission of his/her Thesis/Dissertation.</p> |  |
| <b>TERM WORK</b>  |  |
| <p>1. The Term Work of Project Stage –II will be assessed jointly by the pair of Internal (Guide) and External examiner along with oral examination of the same.</p>  |  |

**North Maharashtra University, Jalgaon**  
**M. E. (Electrical Power System)**  
**Examination Scheme & Structure with Effect from Year 2012-13**  
**FIRST YEAR TERM – I**

| Sr. No.            | Subject                              | Teaching Scheme per week |           | Examination Scheme |            |            |           |           |
|--------------------|--------------------------------------|--------------------------|-----------|--------------------|------------|------------|-----------|-----------|
|                    |                                      | L                        | P         | Paper Hrs.         | Paper      | TW         | PR        | OR        |
| 1                  | Power System Optimization Techniques | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 2                  | Microprocessor and Microcontroller   | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 3                  | Power System Planning & Reliability  | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 4                  | Power System Dynamics                | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 5                  | Elective – I                         | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 6                  | Laboratory Practice – I              | --                       | 6         | --                 | --         | 100        | --        | 50        |
| 7                  | Seminar – I                          | --                       | 4         | --                 | --         | 100        | --        | --        |
| <b>Total</b>       |                                      | <b>15</b>                | <b>10</b> | <b>--</b>          | <b>500</b> | <b>200</b> | <b>--</b> | <b>50</b> |
| <b>Grand Total</b> |                                      | <b>25</b>                |           | <b>750</b>         |            |            |           |           |

**Elective – I**

1. FACTS & Power Quality
2. Artificial Intelligence and its Applications in Power Systems
3. Renewable Energy Sources
4. Power Sector Economics, Management and Restructuring

**FIRST YEAR TERM – II**

| Sr. No.            | Subject                                | Teaching Scheme per week |           | Examination Scheme |            |            |           |           |
|--------------------|--|--------------------------|-----------|--------------------|------------|------------|-----------|-----------|
|                    |  | L                        | P         | Paper Hrs.         | Paper      | TW         | PR        | OR        |
| 1                  | Computer Methods Power System Analysis | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 2                  | Digital Signal Processing              | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 3                  | Power System Modeling & Control        | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 4                  | High Voltage Power Transmission        | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 5                  | Elective – II                          | 3                        | --        | 3                  | 100        | --         | --        | --        |
| 6                  | Laboratory Practice – II               | --                       | 6         | --                 | --         | 100        | --        | 50        |
| 7                  | Seminar – II                           | --                       | 4         | --                 | --         | 100        | --        | --        |
| <b>Total</b>       |  | <b>15</b>                | <b>10</b> | <b>--</b>          | <b>500</b> | <b>200</b> | <b>--</b> | <b>50</b> |
| <b>Grand Total</b> |  | <b>25</b>                |           | <b>750</b>         |            |            |           |           |

**Elective – II**

1. Advanced Power System Protection
2. Power Electronics Applications in Power Systems
3. EHV Transmission Systems
4. Power System Design

**North Maharashtra University, Jalgaon**  
**M. E. (Electrical Power System)**  
**Examination Scheme & Structure with Effect from Year 2012-13**  
***SECOND YEAR TERM – I***

| Sr. No.            | Subject           | Teaching Scheme per week |           | Examination Scheme |           |            |           |           |
|--------------------|-------------------|--------------------------|-----------|--------------------|-----------|------------|-----------|-----------|
|                    |                   | L                        | P         | Paper Hrs.         | Paper     | TW         | PR        | OR        |
| 1                  | Seminar –III      | --                       | 4         | --                 | --        | 50         | --        | 50        |
| 2                  | Project Stage – I | --                       | 18        | --                 | --        | 100        | --        | --        |
| <b>Total</b>       |                   | <b>--</b>                | <b>22</b> | <b>--</b>          | <b>--</b> | <b>150</b> | <b>--</b> | <b>50</b> |
| <b>Grand Total</b> |                   | <b>22</b>                |           | <b>200</b>         |           |            |           |           |

***SECOND YEAR TERM – II***

| Sr. No.            | Subject            | Teaching Scheme per week |           | Examination Scheme |           |            |           |            |
|--------------------|--------------------|--------------------------|-----------|--------------------|-----------|------------|-----------|------------|
|                    |                    | L                        | P         | Paper Hrs.         | Paper     | TW         | PR        | OR         |
| 1                  | Progress Seminar   | --                       | --        | --                 | --        | 50         | --        | --         |
| 2                  | Project Stage – II | --                       | 18        | --                 | --        | 150        | --        | 100        |
| <b>Total</b>       |                    | <b>--</b>                | <b>18</b> | <b>--</b>          | <b>--</b> | <b>200</b> | <b>--</b> | <b>100</b> |
| <b>Grand Total</b> |                    | <b>18</b>                |           | <b>300</b>         |           |            |           |            |

## **SEMESTER-I**

### **1. Power System Optimization Techniques**

#### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

#### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Introduction to optimization and classical optimization techniques, Linear Programming: Standard form, geometry of LPP, Simplex Method P.F. solving LPP, revised simplex method, duality, decomposition principle, and transportation problem.
- 2) Non-Linear Programming (NLP): One dimensional methods, Elimination methods, Interpolation methods Unconstrained optimization techniques-Direct search and Descent methods, constrained optimization techniques, direct and indirect methods.
- 3) Dynamic Programming: Multistage decision processes, concept of sub-optimization and principle of optimality, conversion of final value problem into an initial value problem. CPM and PERT
- 4) Genetic Algorithm: Introduction to genetic Algorithm, working principle, coding of variables, fitness function. GA operators; Similarities and differences between GAs and traditional methods; Unconstrained and constrained optimization.
- 5) Applications to Power system: Economic Load Dispatch in thermal and Hydro-thermal system using GA and classical optimization techniques, Unit commitment problem, reactive power optimization. Optimal power flow, LPP and NLP techniques to optimal flow problems.

#### **Reference books:**

- a. "Optimization - Theory and Applications", By S.S.Rao, Wiley-Eastern Limited
- b. "Introduction of Linear and Non-Linear Programming", By David G. Luenberger, Wesley Publishing Company
- c. "Computational methods in Optimization", By Polak, Academic Press
- d. "Optimization Theory with Applications" By Pierre D.A., Wiley Publications
- e. "Operations Research" By D. S. Hira & P. K. Gupta, S Chand Publications



## **2. Microprocessor and Microcontroller**

### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Overview of 8086 : Architecture, instruction including I/O instructions, Addressing modes, interrupt structure, ISR minimum and maximum mode, Assembly Language Programmes on 16-bit multiplication, 16-bit by 8-bit division, bubble sort, palindrome. **Hardware and Software debugging aids:** 1 Pass and 2 Pass assemblers, cross assemblers, circuit emulators, simulators, linkers, loaders, compiler, cross compiler, Types of interfacing devices-→Latches(74373), Buffers(74244/245).
- 2) **8051 Architecture:** 8051 Microcontroller Hardware, Input/output. Pins, ports, and circuits, External Memory, Counter and Timers, Serial Data input/ output, Interrupts **Assembly language programming concepts :** The mechanics of programming, The assembly language programming process, PAL instructions, Programming tools and techniques, Programming the 8051 **Moving Data :** Addressing modes, external data moves, code memory read only data moves, push and pop -op codes, data exchanges
- 3) **Logical Operations :** Byte level logical operations, bit level logical operations, rotate and swap operations **Arithmetic Operations :** Flags, incrementing and decrementing, addition, subtraction, multiplication and division, decimal arithmetic **Jumps and Call Instructions :** The jump and call program range, jumps, calls and subroutines, interrupts and returns
- 4) **8051 Microcontroller Design :** Microcontroller specification, microcontroller design, testing the design, timing subroutines, look up tables for the 8051, serial data transmission
- 5) **Applications:** Keyboard, displays→LED & LCD, pulse measurement, D/A and A/D conversion, multiple interrupts **Serial Data Communication:** Network Configuration, 8051 Data Communication.

### **Reference books:**

- a. "The 8051 Micro Controller : Architecture, Programming," By Kenneth J.Ayala, Penram International, Mumbai.
- b. Intel Embeded Micro Controller Data Book, Intel Corporation.
- c. "Microprocessor and Digital Systems" By D.V.Hall, ELBS Publication, London.
- d. "Advance Microprocessors and Micro Controllers" By B.P.Singh,, New Age International, New Delhi.
- e. "Microprocessors and Interfacing" By D.V.Hall, Tata McGraw Hill Publication, New Delhi.
- f. "Microcomputer Systems: the 8086/8088 Family, Architecture, Programming and Design" By Y.C.Liu, Gibson, Prentice Hall of India Publications, New Delhi.
- g. "Introduction to Microprocessor, Software, Hardware and Programming" By Lance A. Leventhal,
- h. "Microprocessor Architecture, Programming and Applications with the 8085" By Ramesh S.Gaonkar, Penram International, Mumbai.
- i. "8051 microcontroller and embedded system" By Muhammad Ali Mazidi, Janice Mazidi, Rollin McKinlay, Pearson Second Edition

### 3. Power System Planning & Reliability

#### **Teaching Scheme:**

Lectures: 3 Hrs. /Week

#### **Examination Scheme:**

Theory Paper: 100 Marks

Duration: 3 hours

- 1) **Load Forecasting** : Introduction, Factors affecting Load Forecasting, Load Research, Load Growth Characteristics, Classification of Load and Its Characteristics, Load Forecasting Methods - (i) Extrapolation (ii) Co-Relation Techniques, Energy Forecasting, Peak Load Forecasting, Reactive Load Forecasting, Non-Weather sensitive load Forecasting, Weather sensitive load Forecasting, Annual Forecasting, Monthly Forecasting, Total Forecasting.
- 2) **System Planning** : Introduction, Objectives & Factors affecting to System Planning , Short Term Planning, Medium Term Planning, Long Term Planning, Reactive Power Planning.  
**Reliability** : Reliability, Failure, Concepts of Probability, Evaluation Techniques (i) Markov Process (ii) Recursive Technique, Stochastic Prediction of Frequency and Duration of Long & Short Interruption, Adequacy of Reliability, Reliability Cost.
- 3) **Generation Planning and Reliability** : Objectives & Factors affecting Generation Planning, Generation Sources, Integrated Resource Planning, Generation System Model, Loss of Load (Calculation and Approaches), Outage Rate, Capacity Expansion, Scheduled Outage, Loss of Energy, Evaluation Methods. Interconnected System, Factors Affecting Interconnection under Emergency Assistance.
- 4) **Transmission Planning and Reliability**: Introduction, Objectives of Transmission Planning, Network Reconfiguration, System and Load Point Indices, Data required for Composite System Reliability.
- 5) **Distribution Planning and Reliability**: Radial Networks – Introduction, Network Reconfiguration, Evaluation Techniques, Interruption Indices, Effects of Lateral Distribution Protection, Effects of Disconnects, Effects of Protection Failure, Effects of Transferring Loads, Distribution Reliability Indices. Parallel & Meshed Networks - Introduction, Basic Evaluation Techniques, Bus Bar Failure, Scheduled Maintenance, Temporary and Transient Failure, Weather Effects, Breaker Failure

#### **Reference Books :**

- a. “Modern Power System Planning” By X. Wang & J.R. McDonald, McGraw Hill
- b. “Electrical Power Distribution Engineering” By T. Gönen, McGraw Hill Book Company
- c. “Generation of Electrical Energy” By B.R. Gupta, S. Chand Publications
- d. “Electrical Power Distribution” By A.S. Pabla, Tata McGraw Hill Publishing Company Ltd.
- e. “Electricity Economics & Planning” By T.W.Berrie, Peter Peregrinus Ltd., London.
- f. “Power System Planning” By R.N. Sullivan , McGraw Hill

#### **4. Power System Dynamics**

**Teaching Scheme:**

*Lectures: 3 Hrs. /Week*

**Examination Scheme:**

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Requirement of reliable power system, Basic concepts of stability, Reliable electrical power service, Stability of Synchronous machines, Tie line oscillations, Method of simulation.
- 2) Synchronous Machines: Review of synchronous machine equations, parameters, Equations in a-b-c phase co-ordinates and Park's co-ordinates, Representation of external system, Low and High order state models, Choice of state variables. Initial state equivalent circuit, Phasor diagram p.u. reactance. System Response to Large Disturbances: System of one machine against infinite bus, Classical Model, Mechanical and electrical torques, Critical clearing angle and time, Automatic reclosing, Pre calculated Swing curves and their use.
- 3) System Response to Small Disturbances: Two machine system with negligible losses, Clarke diagram for two machine series reactance system, Extension of Clarke diagram to cover any reactance network, Equation for steady State Stability limit, Two-Machine system with losses, Effect of inertia. Effect of governor, action, Conservative criterion for stability, Effect of saliency, saturation and short circuit ratio on steady state power limits.
- 4) Regulated Synchronous Machines: Demagnetizing effect of armature reaction and effect of small speed changes, Modes of oscillations of unregulated multimachine system. Voltage regulator and governor with delay Distribution of power impacts.
- 5) Effect of Excitation on Stability: Effect of excitation on generator power limits, transients and dynamic stability, Examination of dynamic stability by Routh's criterion, Root locus analysis of a regulated machine connected to an infinite bus. Approximate System representation, Supplementary Stabilizing Signals, Linear analysis of stabilized generator.

**Reference Books :**

- a. "Synchronous Machines" By C.Concordia, John Wiley & Sons.
- b. "Power System Stability" By E.W.Kimbark, Dover Publication, Vol.-3
- c. "Power System Control & Stability" By Anderson, Galgotia Publ.
- d. "Power System Stability" By S.B. Crary, John Wiley & Sons.
- e. "Modern Power System Analysis" By Nagrath I. J. & Kothari D. P., Tata McGraw Hill Publication New Delhi

***ELECTIVE-I***  
***i. FACTs & Power Quality***

***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Steady state and dynamic problems in AC systems, Flexible AC transmission systems (FACTS), principles of series shunt compensation.
- 2) Description of static var compensation (SVC), thyristor controlled series compensation (TCSC) static phase shifters (SPS), static condenser (STATCON), static synchronous series compensator (SSSC) and unified power flow controller (UPFC), modeling and analysis of FACTS controllers, control strategies to improve system stability.
- 3) Power quality problems in distribution systems, Harmonics, Harmonics creating loads, modeling.
- 4) Harmonic propagation, series and parallel resonance, harmonic power flow, mitigation of harmonics, filters, passive filters, active filters, shunt and series hybrid filters, voltage sag and swells.
- 5) Voltage flicker, mitigation of power quality problems using power electronics conditioners, IEEE standards.

***Reference Books :***

- a. "Understanding FACTS" By Hingorani & Gyugui, IEEE press.
- b. "FACTS Controllers in Transmission & Distribution" By K. R. Padiyar. New Age Publication.
- c. "Power Quality" By G.T.Heydt , Stars in a Circle Publication, Indiana, 1991.
- d. "Static Reactive Power Compensation" By E.J.E.Miller John Wiley & Sons, New York, 1982.
- e. Recent Publications on Power Systems and Power Delivery.

ii. **Artificial Intelligence and its Applications in Power Systems**

**Teaching Scheme:**

*Lectures: 3 Hrs. /Week*

**Examination Scheme:**

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) **Introduction to Artificial Intelligence:** Introduction, Fuzzy systems, Artificial Neural Network (ANN), Expert Systems, Genetic Algorithm, Evolutionary Programming. Biological neurons: Function of single biological neuron, function of artificial neuron, Basic terminology related to artificial neuron. Characteristics of ANN, Typical applications of ANN such as classification, pattern recognition, forecasting Properties, strength of NN.
- 2) **Different Architectures of ANN and Learning Processes :** Different architectures of Neural Network, types of activation function, concept of Learning with a Teacher, Learning without a Teacher, Learning Tasks (Any two learning methods and applications)
- 3) **Single Layer Network and Multi-layer Network :** Single Layer Perception: architecture – training algorithm, Least – Mean square algorithm, learning curves, Learning Rate, Annealing techniques. Feed forward Neural Network(MLP) , Back propagation algorithm. Limitation of Back propagation algorithm. Concept of learning rate, momentum coefficient, Generalization capacity
- 4) **Fuzzy Mathematics :** Basic concept of Fuzzy Logic, Fuzzy set – Basic definition – Mambership function, Operations of fuzzy sets.
- 5) **Fuzzy Theory :** Fuzzy relations - Fuzzy graphs - Fuzzy analysis – Propositional logic, predictive logic, Fuzzy set theory.  
**AI Applications in Power Systems :** Application of ANN and Fuzzy logic in Power System Planning, Operation and control – load forecasting, Unit Commitment, Load Dispatch and Protection.

**Reference Books:**

- a. “Neural Networks, Fuzzy Logic & Genetic Algorithms Synthesis & Applications” By S. Rajsekaram, G. A. Vijayalaxmi Pai, Practice Hall India
- b. “Introduction to Neural Network Using MATLAB 6.0” By S. N. Sivanandam, S. Sumathi, S. N. Deepa, , Tata McGraw Hill
- c. “Fuzzy Sets, Uncertainty and Information” By George Klir & Tina. A. Folger, Prentice Hall of India Pvt. Ltd
- d. “Artificial Intelligence” By G. F. Luger and W. A. Stubblefield, Redwood City, CA: Benjamin Cummings, 1993.
- e. “Fundamentals of Artificial Neural Network” By Mohamed H. Hassoun, Practice Hall India.
- f. “Introduction to Artificial Intelligence” By Eugene Charniat, Drew McDermott, Pearson Education.
- g. “An Introduction to Neural Networks” By James A. Anderson, Practice Hall India Publication.

### **iii. Renewable Energy Sources**

#### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

#### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) **Energy Scenario:** Classification of Energy Sources, Energy resources (Conventional and nonconventional), Energy needs of India, and energy consumption patterns. Worldwide Potentials of these sources. Energy efficiency and energy security. Energy and its environmental impacts. Global environmental concern, Kyoto Protocol, Concept of Clean Development Mechanism (CDM) and Prototype Carbon Funds (PCF). Factors favoring and against renewable energy sources.
- 2) **Solar Energy:** Solar thermal Systems: Types of collectors, Collection systems, efficiency calculations, applications. Photo voltaic (PV) technology: Present status, - solar cells , cell technologies, characteristics of PV systems, equivalent circuit, array design , building integrated PV system, its components , sizing and economics. Peak power operation. Standalone and grid interactive systems.
- 3) **Wind Energy:** Wind Energy : wind speed and power relation, power extracted from wind, wind distribution and wind speed predictions. Wind power systems: system components, Types of Turbine, Turbine rating Choice of generators, turbine rating, electrical load matching, Variable speed operation, maximum power operation, control systems, system design features, stand alone and grid connected operation.
- 4) **Other energy sources:** Biomass – various resources, energy contents, technological advancements, conversion of biomass in other form of energy – solid, liquid and gases. Gasifires Biomass fired boilers, Co firing, Generation from municipal solid waste, Issues in harnessing these sources. Hydro energy – feasibility of small, mini and micro hydel plants scheme layout economics. Tidal and wave energy, Geothermal and Ocean-thermal energy conversion (OTEC) systems – schemes, feasibility and viability.
- 5) **Energy storage and hybrid system configurations:** Energy storage: Battery – types, equivalent circuit, performance characteristics, battery design, charging and charge regulators. Battery management. Fly wheel energy relations, components, benefits over battery. Fuel Cell energy storage systems. Ultra Capacitors.  
**Grid Integration :** Stand alone systems, Hybrid systems – hybrid with diesel, with fuel cell, solar wind, wind –hydro systems, mode controller, load sharing, system sizing. Hybrid system economics. Grid integration with the system: Interface requirements, Stable operation, Transient-safety, Operating limits of voltage, frequency, stability margin, energy storage, and load scheduling. Effect on power quality - harmonic distortion, voltage transients and sags.

#### **Reference Books :**

- a. “Wind and solar systems” By Mukund Patel, CRC Press.
- b. “Solar Photovoltaics for terrestrials” By Tapan Bhattacharya.
- c. “Wind Energy Technology” By Njenkins, John Wiley & Sons,
- d. “Non Conventional Energy Resources” by D.S. Chauhan and S.K.Srivastava,.
- e. “Solar Energy” By S.P. Sukhatme, Tata McGraw Hill.
- f. “Solar Energy” By S. Bandopadhyay, Universal Publishing.

#### **iv. Power Sector Economics, Management and Restructuring**

##### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

##### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

##### **1) Power Sector in India**

Introduction to various institutions in Indian Power sector such as CEA, Planning Commissions, PFC, Ministry of Power, state and central governments, REC, utilities and their roles. Critical issues / challenges before the Indian power sector, Salient features of Electricity act 2003, Various national policies and guidelines under this act.

##### **2) Power sector economics and regulation**

Typical cost components and cost structure of the power sector, Different methods of comparing investment options, Concept of life cycle cost , annual rate of return , methods of calculations of Internal Rate of Return(IRR) and Net Present Value(NPV) of project, Short term and long term marginal costs, Different financing options for the power sector. Different stakeholders in the power sector, Role of regulation and evolution of regulatory commission in India, types and methods of economic regulation, regulatory process in India.

##### **3) Power Tariff**

Different tariff principles (marginal cost, cost to serve, average cost), Consumer tariff structures and considerations, different consumer categories, telescopic tariff, fixed and variable charges, time of day, interruptible tariff, different tariff based penalties and incentives etc., Subsidy and cross subsidy, life line tariff, Comparison of different tariff structures for different load patterns. Government policies in force from time to time. Effect of renewable energy and captive power generation on tariff. Determination of tariff for renewable energy.

##### **4) Power sector restructuring and market reform**

Different industry structures and ownership and management models for generation, transmission and distribution. Competition in the electricity sector- conditions, barriers, different types, benefits and challenges Latest reforms and amendments. Different market and trading models / arrangements, open access, key market entities- ISO, Genco, Transco, Disco, Retailco, Power market types, Energy market, Ancillary service market, transmission market, Forward and real time markets, market power.

##### **5) Electricity Markets Pricing and Non-price issues**

Electricity price basics, Market Clearing price (MCP), Zonal and locational MCPs. Dynamic, spot pricing and real time pricing, Dispatch based pricing, Power flows and prices. Optimal power flow Spot prices for real and reactive power. Unconstrained real spot prices, constraints and real spot prices. Non price issues in electricity restructuring (quality of supply and service, standards of performance by utility, environmental and social considerations) Global experience with electricity reforms in different countries.

#### **Reference Books :**

- a. "Know Your Power", A citizens Primer On the Electricity Sector, Prayas Energy Group, Pune
- b. Sally Hunt, "Making Competition Work in Electricity", 2002, John Wiley Inc
- c. Electric Utility Planning and Regulation, Edward Kahn, American Council for Energy Efficient Economy

### **LABORATORY PRACTICE-I**

***Teaching Scheme:***

*Practical: 6 Hrs. /Week*

***Examination Scheme:***

*Term Work: 100 Marks*

*Oral: 50 Marks*

Term work shall consist of record of minimum eight experiments using Engineering Computation Software such as MATLAB, SCILAB, PSCAD, ETAP, with moderate to high complexity /assignments based on syllabus of subjects from Semester-I



### **SEMINAR-I**

***Teaching Scheme:***

*Practical: 4 Hrs. /Week*

***Examination Scheme:***

*Term Work: 100 Marks*

Each student is required to deliver a seminar in first semester on the topic of his/her own choice. The topic of the seminar should be out of the syllabus and relevant to the latest trends in Electrical Power Systems.

The topic will be decided by the student, Guide and Head of department. Each student will make seminar presentation with audio/video aids, for the duration of 45 minutes and seminar work shall be in format of report to be submitted by the student at the end of semester.

The report copies must be duly signed by Guide and Head of department. (One copy for institute, one copy for guide and one copy for candidates for certification). The student is expected to submit the seminar report in standard format. Attendance of all students for all seminars is compulsory.

## SEMESTER-II

### **1. COMPUTER METHODS IN POWER SYSTEM ANALYSIS**

#### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

#### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Representation of power systems for computerized analysis: Mathematical models of synchronous generator for steady state and transient analysis, Transformer with tap changer, transmission line, phase shifter and loads.
- 2) Topology of Electric Power System-Network Graphs, Incidence matrices, fundamental loop and cutset matrices, primitive impedance and admittance matrices, equilibrium equations of networks. Singular and nonsingular transformation of network matrices.
- 3) Formation of bus impedance and admittance matrices by algorithm - Modification of bus impedance and admittance matrix to account for change in networks. Derivation of loop impedance matrix. Three phase network elements-transformation matrix - incidence and network matrices for three phase network. Algorithm for formulation of three - phase bus impedance matrix.
- 4) Short Circuit Studies: Three phase network, Symmetrical components. Thevenin's theorem and short circuit analysis of multi node power systems using bus impedance matrix. Short circuit calculations for balanced and unbalanced short circuits bus impedance and loop impedance matrices, Stability studies- Solution of state equation by modified Euler method and solution of network equations by Gauss-Seidal interactive method
- 5) Load flow studies : Slack bus, load buses, voltage control buses, Load flow equations, Power flow model using bus admittance matrix, Power flow solution through Gauss-Seidal and N-R methods - sensitivity analysis, Second order N-R method, fast decoupled load flow method - Sparsity of matrix. Multi area power flow analysis with the line control.

#### **Reference Books :**

- a. "Computer Methods in Power System Analysis" By G.W. Stagg, A.H.Eladiad, McGraw Hill Book Co.
- b. "Computer Techniques in Power System Analysis" By M.A. Pai, Tata McGraw Hill Publication.
- c. "Electric Energy System Theory" By O.I.Elgard, Tata McGraw Hill Publication.
- d. "Computer Aided Power System Operation and Analysis" By R.N.Dhar, Tata McGraw Hill Publication.
- e. "Modern Power System Analysis" By I.J.Nagrath, D.E.Kothar, Tata McGraw Hill, New Delhi.

## **2. Digital Signal Processing**

### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Characterization & Classification of Digital Signals. Digital Signal Processing of continuous signals. Discrete time signals - sequences, representation of signals on orthogonal basis, sampling, aliasing, quantization & reconstruction of signals.
- 2) Discrete systems-attributes, z-transform, analysis of LTI system. Frequency analysis, inverse systems, Discrete Fourier transforms, Fast Fourier implementation of discrete time system.
- 3) Digital filters - structures, sampling, recursive, non-recursive A to D & D to A conversion. FIR, IIR & lattice filter structures, Design of FIR digital filters. Window method, Park-McCellan's method. Design of IIR digital filters. Butterworth, Chebyshev.
- 4) Elliptic approximations, low-pass, band-pass, band-stop & high-pass filters. Effect of finite register length in FIR filter design. Multirate signal processing-motivation-application, decimation & interpolation, sample rate conversion, polyphase implementation of sampling rate conversion, Filter bank theory-DFT filter banks, Adaptive filtering theory.
- 5) DSP Processors and Applications - DSP Microprocessor architectures, fixed point, floating point precision, algorithm design, mathematical, structural and numerical constraints, DSP programming, filtering, data conversion; communication applications. Real time processing considerations including interrupts.

### **Reference Books :**

- a. "Digital Signal Processing Principles, Algorithm and Applications" By J.G.Proakis and D.G.Manolakis ' ' Prentice Hall 1997
- b. "Discrete Time Signal Processing" By A.V.Oppenheim, R.W.Schafer, John Wiley.
- c. "Introduction to Digital Signal Processing" By J.R. Johnson,Prentice Hall 1992
- d. "Digital Signal Processing" By D.J.Defatta, J.G.Dulas. Hodgekiss, J. Wiley and Sons Singapore, 1988
- e. "Theory & Applications of Digital Signal Processing" By L.R.Rabiner & B. Gold , Prentice Hall, 1992
- f. "Digital Signal Processing:A Practical Approach" By Emmanuel Ifeachor, Prof. Barrie Jervis, Prentice Hall

### **3. Power System Modeling & Control**

#### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

#### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Transient response and concept of stability in Electrical Power System. Modelling of Power System. Control of voltage, frequency and tie-line power flows, Q-V and P-f control loops, mechanism of real and reactive power control.
- 2) Mathematical model of speed governing system. Turbine governor as affecting the power system dynamics. Transient and steady state response in the interconnected power systems. Excitation systems. Transformation model of exciter system. Analysis using block diagrams.
- 3) Power systems stabilizers. Dynamic stability (small disturbances), effect of excitation control and turbine dynamics, characteristic equation, method of analysis of the stability of power system. Multi machine systems, Flux decay effects. Multi machine systems with constant impedance loads, matrix representation of a passive network in the transient state, converting to a common reference frame. Converting machine co-ordinates to system reference, relation between machine current and voltages, system order, machine represented by classical methods.
- 4) Net interchange tie-line bias control. Optimal, sub-optimal and decentralized controllers. Discrete mode AGC. Time - error and inadvertent interchange correction techniques. On-line computer control. Distributed digital control.
- 5) Data acquisition systems. Emergency control, preventive control, system, System wide optimization, SCADA. Self excited electro-mechanical oscillations in power system and the means for control.

#### **Reference Books :**

- a. "Transient Processes in Electrical Power System" By V.Venlkov ,Mir Publication, Moscow.
- b. "Electric Energy Systems Theory" By Olle I.Elgard , Tata McGraw Hill Pub. Co., New Delhi.
- c. "Power System Control and Stability" By Anderson P.M. & Foad A.A., Galgotia Pub.
- d. "Modern Power System Analysis" By Nagrath I.J., Kothari D.P. , Tata McGraw Hill Pub. Co., New Delhi.

#### **4. High Voltage Power Transmission**

##### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

##### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

### **HIGH VOLTAGE AC TRANSMISSION**

- 1) **Engineering Aspects of EHV AC Transmission System:** Principles, configuration, special features of high voltage AC lines, power transfer ability, reactive power compensation, audible noise, corona bundle conductors, electric field, right of way, clearances in a tower, phase to phase, phase to ground, phase to tower, factors to be considered, location of ground wire, angle of protection, tower configuration. Principles of radio interference, origin of radio interference, method of propagation, factors to be considered in line design.
- 2) **Power System Transients:** Introduction, circuit closing transients, sudden symmetrical short circuit of alternator, recovery transients due to removal of short circuit, traveling waves on transmission lines, wave equation, surge impedance and wave velocity, specifications of traveling waves, reflection and refraction of waves, typical cases of line terminations, equivalent circuit for traveling wave studies, forked lines, reactive termination, successive reflections, Bewley lattice diagram, attenuation and distortion, arcing grounds, capacitance switching, current chopping, lightning phenomenon, over voltages due to lightning, line design based on direct strokes, protection of systems against surges, statistical aspects of insulation co-ordination.

### **HIGH VOLTAGE DC TRANSMISSION**

- 3) **General Background :** EHV AC versus HVDC Transmission, power flow through HVDC link, equation for HVDC power flow, effect of delay angle and angle of advance, bridge connections, waveform of six pulse and twelve pulse bridge converter, commutation, phase control, angle of extinction, control of DC voltage, connections of three phase six pulse and twelve pulse converter bridges, voltage and current waveforms.
- 4) Bipolar HVDC terminal, converter transformer connections, switching arrangements in DC yard for earth return to metallic return, HVDC switching system, switching arrangements in a bipolar HVDC terminal, sequence of switching operations, HVDC circuit breakers, DC current interruption, commutation principle, probable types and applications of HVDC circuit breakers, multi-terminal HVDC systems, parallel tapping, reversal of power, configurations and types of multi-terminal HVDC systems, commercial multi terminal systems.
- 5) Faults and abnormal condition in bipolar, two terminal HVDC system, pole-wise segregation, protective zones, clearing of DC line faults and reenergizing, protection of converters, transformer, converter valves, DC yards, integration of protection and controls, hierarchical levels of control, block diagram, schematic diagram, current control, power control, DC voltage control, commutation channel, master control, station control, lead station, trail station, pole control, equidistant firing control, synchronous HVDC link, asynchronous HVDC Link.

**Reference Books:**

- a. “An Introduction to High Voltage Engineering” By Subir Ray, Prentice Hall of India Private Limited, New Delhi – 110 001.
- b. “HVDC Transmission” By Adamson C., Hingorani N.G., IEEE Press
- c. “Power Transmission” By DC Uhimann E.
- d. “HVAC and HVDC Transmission, Engineering and practice” By S. Rao, Khanna Publisher, Delhi.
- e. “Electric Power Systems” By B.M. Weddy and B.J.Cory, John Wiely and Sons, Fourth edition (2002)
- f. “Power System Analysis and Design” By J.Duncan Glover, Mulukutla S.Sarma, Thomson Brooks/cole /Third Edition (2003)
- g. “Power System Analysis and Design” By B.R. Gupta, S.Chand and Company (2004)

## ***ELECTIVE-II***

### ***i. Advanced Power System Protection***

#### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

#### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Review of principles of power system equipments protection, configuration of various solid state protection scheme, evolution of digital relays from electromechanical relays,
- 2) performance & operational characteristics of digital protection, Basic elements of digital filtering, analog multiplexers, conversions of system: the sampling theorem, signal aliasing error, sample & hold circuit, multiplexers, analog to digital conversion, digital filtering concepts, A digital relay. Hardware & Software.
- 3) Mathematical background to protectional algorithm, first derivative (Mann & Morrison) algorithm, Fourier algorithm- full cycle window algorithm, fractional cycle window algorithm,
- 4) Walsh function based algorithm, least square based algorithm, differential equation based algorithm, travelling wave based technique.
- 5) Digital differential protection of transformer, digital line differential protection, recent advances in digital protection of power system.

#### ***Reference Books:***

- a. "Digital Protection for Power System" By A.T.Johns and S.K.Salman, Peter, Published by Peter Peregrinus Ltd. on behalf of the IEE, London, U.K.
- b. "Power System Protection and Switchgear" By Badri Ram and D.N.Vishvakarma, Tata McGraw Hill, New Delhi.
- c. "Transmission Network Protection" By Theory and Practice, Y.G.Paithankar, Marcel Dekker, New York, U.S.A.
- d. "Fundamentals of Power System Protection" By Y.G.Paithankar and S.R. Bhide, Prentice Hall of India, New Delhi.

## **ii. Power Electronics Applications in Power Systems**

### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) **Power Electronic Controllers:** Basics, challenges and needs, static power converter structures, AC controller based structures, D.C. link converter topologies, converter output and harmonic control, power converter control issues.
- 2) **Shunt Compensation:** SVC and STATCOM: Operation and control of SVC, STATCOM configuration, control & applications.  
**Series Compensation:** Principle of operation, application of TCSC for damping of electromechanical oscillations, application of TCSC for mitigation of sub-synchronous resonance, TCSC layout and protection, static synchronous series compensator (SSSC).
- 3) **Unified Power Flow Controller:** Steady state operation, control and characteristics, introduction to transient performance, power flow studies in UPFC embedded systems, Operational constraints on UPFC.
- 4) **Other FACTS Controllers:** Circuit, model and operating features of Dynamic Voltage Regulator(DVR), Thyristor Controlled Braking Resistors (TCBR), Thyristor Controlled Phase Angle Regulator(TCPAR), comparison of all FACTS controllers.
- 5) **Control Strategies and co-ordination :** Conventional control, Hysteresis control, Artificial Neural Network, fuzzy logic controls, comparison between different control schemes, co-ordination between different FACTS controllers.

### **Reference Books:**

- a. "Flexible A.C. Transmission Systems (FACTS)" By Yong Hua Song and Johns (IEE Power and Energy Series 30)
- b. "Thyristor based FACTS controllers" By Mathur & Verma (IEEE Press, New York)
- c. "Sub-synchronous Resonance" By K.R. Padiyar, B.S. Publications, Hyderabad.
- d. "FACT's Controllers in Transmission & Distribution" by K.R. Padiyar New Age Publishers ,Delhi, May 2007



### **iii. EHV Transmission Systems**

#### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

#### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Basic Aspects of A.C. Power Transmission, Power-Handling Capacity and Line Loss, Surface Voltage Gradient on Conductors, Electrostatic Field of EHV Lines. Measurement of Electrostatic Fields. Electromagnetic Interference. Traveling Waves and Standing Waves, Line Energization with Trapped - Charge Voltage. Reflection and Refraction of Traveling Waves. Transient Response of Systems with Series and Shunt Lumped Parameters. Principles of Traveling-Wave Protection
- 2) Lightning & Lightning Protection, Insulation Coordination Based on Lightning
- 3) Over Voltages in EHV Systems Caused by Switching Operations, Origin of Over Voltages and their Types, Over Voltages Caused by Interruption of Inductive and Capacitive Currents, Ferro-Resonance Over Voltages, Calculation of Switching Surges, Power Frequency Voltage Control and Over Voltages, Power Circle Diagram.
- 4) Reactive Power Flow and Voltage Stability in Power Systems. Steady - State Static Real Power and Reactive Power Stability, Transient Stability, Dynamic Stability. Basic Principles of System Voltage Control. Effect of Transformer Tap Changing in the Post- Disturbance Period, Effect of Generator Excitation Adjustment, Voltage Collapse in EHV Lines, Reactive Power Requirement for Control of Voltage in Long Lines. Voltage Stability.
- 5) Power Transfer at Voltage Stability Limit of EHV Lines, Magnitude of Receiving End Voltage at Voltage Stability Limit. Magnitude of Receiving End Voltage During Maximum Power Transfer. Magnitude of Maximum Power Angle at Voltage Stability Limit. Optimal Reactive Power at Voltage Stability Limit.

#### **Reference Books:**

- a. "Performance, operation & control of EHV power transmission system"  
A. Chakrabarti, D.P. Kothari, A.K. Mukhopadhyay, wheeler publications
- b. "Extra high-voltage A.C. transmission Engineering" By Rakash Das Begamudre, New Age International Pvt. Ltd.
- c. "EHVAC & HVDC Transmission Engineering & Practice" By S. Rao, Khanna Publications

#### **iv. Power System Design**

##### ***Teaching Scheme:***

*Lectures: 3 Hrs. /Week*

##### ***Examination Scheme:***

*Theory Paper: 100 Marks*

*Duration: 3 hours*

- 1) Power System Components, Location of Main Generating Stations and Substations, Interconnections, Load Dispatch Centers
- 2) Design of Transmission Lines, Selection of Voltage, Conductor Size, Span, Number of Circuits, Conductor Configurations, Insulation Design, Mechanical Design of Transmission Line, Towers, Sag- Tension Calculations
- 3) Design of EHV Transmission Line Based Upon Steady State Limits and Transient Over Voltage, Design Factors Under Steady States, Design of 400kV, 1000MW Medium and Long Transmission Line Without and with Series Capacitance Compensation and Shunt Reactors at Both Ends, 750KV Long Transmission Line with Only Shunt Reactors. Extra High Voltage Cable Transmission, Design Basis of Cable Insulation, Search Performance of Cable Systems, Laying of Power Cables
- 4) Vigorous Solution of Long Transmission Line, Interpretation of Long Line Equations, Ferranti Effect, Tuned Power Lines, Equivalent Circuit of Long Line, Power Flow Thorough Transmission Line and Methods of Voltage Control
- 5) Power System Earthing, Earth Resistance, Tolerable and Actual Step and Touch Voltages, Design of Earthing Grid, Concrete Encased Electrodes, Tower Footing Resistance, Impulse Behavior of Earthing System

##### **Reference Books:**

- a. "Electrical Power System Design" By M.V. Deshpande, Tata McGraw Hill
- b. "Power System Analysis and Design" By B.R.Gupta, Wheeler Publishing co.
- c. "Power System Engineering" By I.J.Nagrath & D. P. Kothari, Tata Mc Graw Hill
- d. "Extra high-voltage A.C. transmission Engineering" By Rakosh Das Begamudre, New Age International Pvt. Ltd.
- e. "EHV AC & HVDC Transmission Engineering & Protection" By S.S.Rao, Khanna Publishers

### **LABORATORY PRACTICE-II**

***Teaching Scheme:***

*Practical: 6 Hrs. /Week*

***Examination Scheme:***

*Term Work: 100 Marks*

*Oral: 50 Marks*

Term work shall consist of record of minimum eight experiments using Engineering Computation Software such as MATLAB, SCILAB, PSCAD, ETAP, with moderate to high complexity /assignments based on syllabus of subjects from Semester-II

## **SEMINAR-II**

***Teaching Scheme:***

*Practical: 4 Hrs. /Week*

***Examination Scheme:***

*Term Work: 100 Marks*

Each student is required to deliver a seminar in second semester on the topic of his/her own choice. The topic of the seminar should be out of the syllabus and relevant to the latest trends in Electrical Power Systems.

The topic will be decided by the student, Guide and Head of department. Each student will make seminar presentation with audio/video aids, for the duration of 45 minutes and seminar work shall be in format of report to be submitted by the student at the end of semester.

The report copies must be duly signed by Guide and Head of department. (One copy for institute, one copy for guide and one copy for candidates for certification). The student is expected to submit the seminar report in standard format. Attendance of all students for all seminars is compulsory.

## **SEMESTER-III**

### **SEMINAR-III**

#### ***Teaching Scheme:***

*Practical: 4 Hrs. /Week*

#### ***Examination Scheme:***

*Term Work: 50 Marks*

*Oral: 50 Marks*

Each student will select a topic in the area of electrical engineering, related to M. E. Project Stage-I.

The topic will be decided by the student, guide and Head of department. Each student will make seminar presentation with audio/video aids, for the duration of 45 minutes and seminar work shall be in format of report to be submitted by the students at the end of semester.

The report copies must be duly signed by guide and Head of department. (One copy for institute, one copy for guide and one copy for candidates for certification). The student is expected to submit the seminar report in standard format. Attendance of all students for all seminars is compulsory.

### **PROJECT STAGE-I**

***Teaching Scheme:***

*Practical: 18 Hrs. /Week*

***Examination Scheme:***

*Term Work: 100 Marks*

Project Stage – I is the integral part of the dissertation project. The project should be based on the knowledge acquired by the student during the coursework and should contribute to the needs of the society.

The project aims to provide an opportunity of designing and preparing complete system or subsystems in an area where the student like to acquire specialized skills. The student should present the progress of the project. It will consist of problem statement, literature survey; project overview and scheme of implementation (block diagram, algorithm, program, PERT chart, etc.)

The term work should be continuously evaluated as per the norms/guidelines.

## **SEMESTER-IV**

### **PROGRESS SEMINAR**

#### ***Examination Scheme:***

*Term Work: 50 Marks*

Each student will select a topic in the area of electrical engineering, related to M. E. Project Stage-II.

The topic will be decided by the student, guide and Head of department. Each student will make seminar presentation with audio/video aids, for the duration of 45 minutes and seminar work shall be in format of report to be submitted by the students at the end of semester.

The report copies must be duly signed by guide and Head of department. (One copy for institute, one copy for guide and one copy for candidates for certification). The student is expected to submit the seminar report in standard format. Attendance of all students for all seminars is compulsory.

### **PROJECT STAGE-II**

***Teaching Scheme:***

*Practical: 18 Hrs. /Week*

***Examination Scheme:***

*Term Work: 150 Marks*

*Oral: 100 Marks*

The project work will start in second year (Continue to project stage-I).

The term work should be continuously evaluated as per the norms/guidelines.

The project work (dissertation) should be presented in a standard format.

The oral examination shall be conducted with the help of approved external examiner, appointed by university.





# **North Maharashtra University, Jalgaon**

## **FACULTY OF COMMERCE & MANAGEMENT**

### **Syllabus of Master in Business Administration (MBA-II)**

**W.E.From 2015-16**





**North Maharashtra University, Jalgaon**  
(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

**PROPOSED STRUCTURE OF MASTER IN BUSINESS ADMINISTRATION (M.B.A.)**

**Semester-I and II w.e.f. July 2014**

| Paper | Semester-I                      | Paper | Semester-II                         |
|-------|---------------------------------|-------|-------------------------------------|
| 101   | Management Science              | 201   | Business Research Methods           |
| 102   | Corporate Communication Skills  | 202   | Information Technology For Managers |
| 103   | Managerial Economics            | 203   | Global Economics Scenario           |
| 104   | Human Resource Management       | 204   | Marketing Management                |
| 105   | Business Accounting             | 205   | Management Accounting               |
| 106   | Organizational Behavior -I      | 206   | Organizational Behavior– II         |
| 107   | Corporate Social Responsibility | 207   | Financial Management                |
| 108   | Quantitative Techniques         | 208   | Operations Management               |

**Semester-III and IV w.e.f . July 2015**

| Paper | Semester-III                        | Paper | Semester-IV                           |
|-------|-------------------------------------|-------|---------------------------------------|
| 301   | Strategic Management                | 401   | Current Business Scenario             |
| 302   | Management Information System & ERP | 402   | e-Commerce & Excellence Management    |
| 303   | Legal Aspects Of Business           | 403   | Indian Commercial Laws                |
| 304   | Specialization-I                    | 404   | Entrepreneurship & Project Management |
| 305   | Specialization-II                   | 405   | Specialization-V                      |
| 306   | Specialization-III                  | 406   | Specialization-VI                     |
| 307   | Specialization-IV                   | 407   | Specialization-VII                    |
| 308   | Field Work/ Survey Report           | 408   | Project Report & Viva-Voce            |

**Specialization (Any One)**

|   |   |
|---|---|
| A | Financial Management                        |
| B | Marketing Management                        |
| C | Human Resource Management                   |
| D | Operations & Materials Management           |
| E | International Business Management           |
| F | Agro Business Management                    |
| G | Information Technology & Systems Management |
| H | Retail Management                           |
| I | Hospitality Management                      |



**North Maharashtra University, Jalgaon**  
(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

**STRUCTURE OF MASTER IN BUSINESS ADMINISTRATION (M.B.A.)**

| <b>Semester-I and II</b>   |                                 |                      |            |            |                            |                                     |                      |            |            |
|----------------------------|---------------------------------|----------------------|------------|------------|----------------------------|-------------------------------------|----------------------|------------|------------|
| <b>Paper</b>               | <b>Semester-I</b>               | <b>Maximum marks</b> |            |            | <b>Paper</b>               | <b>Semester-II</b>                  | <b>Maximum marks</b> |            |            |
|                            |                                 | Int.                 | Ext.       | Total      |                            |                                     | Int.                 | Ext.       | Total      |
| 101                        | Management Science              | 40                   | 60         | 100        | 201                        | Business Research Methods           | 40                   | 60         | 100        |
| 102                        | Corporate Communication Skills  | 40                   | 60         | 100        | 202                        | Information Technology For Managers | 40                   | 60         | 100        |
| 103                        | Managerial Economics            | 40                   | 60         | 100        | 203                        | Global Economics Scenario           | 40                   | 60         | 100        |
| 104                        | Human Resource Management       | 40                   | 60         | 100        | 204                        | Marketing Management                | 40                   | 60         | 100        |
| 105                        | Business Accounting             | 40                   | 60         | 100        | 205                        | Management Accounting               | 40                   | 60         | 100        |
| 106                        | Organizational Behavior -I      | 40                   | 60         | 100        | 206                        | Organizational Behavior – II        | 40                   | 60         | 100        |
| 107                        | Corporate Social Responsibility | 40                   | 60         | 100        | 207                        | Financial Management                | 40                   | 60         | 100        |
| 108                        | Quantitative Techniques         | 40                   | 60         | 100        | 208                        | Operations Management               | 40                   | 60         | 100        |
| <b>Total Maximum Marks</b> |                                 | <b>320</b>           | <b>480</b> | <b>800</b> | <b>Total Maximum Marks</b> |                                     | <b>320</b>           | <b>480</b> | <b>800</b> |

| <b>Semester-III and IV</b> |                                     |                      |            |            |                            |                                       |                      |            |            |
|----------------------------|-------------------------------------|----------------------|------------|------------|----------------------------|---------------------------------------|----------------------|------------|------------|
| <b>Paper</b>               | <b>Semester-III</b>                 | <b>Maximum marks</b> |            |            | <b>Paper</b>               | <b>Semester-IV</b>                    | <b>Maximum marks</b> |            |            |
|                            |                                     | Int.                 | Ext.       | Total      |                            |                                       | Int.                 | Ext.       | Total      |
| 301                        | Strategic Management                | 40                   | 60         | 100        | 401                        | Current Business Scenario             | 40                   | 60         | 100        |
| 302                        | Management Information System & ERP | 40                   | 60         | 100        | 402                        | e-Commerce & Excellence Management    | 40                   | 60         | 100        |
| 303                        | Legal Aspects Of Business           | 40                   | 60         | 100        | 403                        | Indian Commercial Laws                | 40                   | 60         | 100        |
| 304                        | Specialization-I                    | 40                   | 60         | 100        | 404                        | Entrepreneurship & Project Management | 40                   | 60         | 100        |
| 305                        | Specialization-II                   | 40                   | 60         | 100        | 405                        | Specialization-V                      | 40                   | 60         | 100        |
| 306                        | Specialization-III                  | 40                   | 60         | 100        | 406                        | Specialization-VI                     | 40                   | 60         | 100        |
| 307                        | Specialization-IV                   | 40                   | 60         | 100        | 407                        | Specialization-VII                    | 40                   | 60         | 100        |
| 308                        | Field Work/ Survey Report           | 40                   | 60         | 100        | 408                        | Project Report & Viva-Voce            | 40                   | 60         | 100        |
| <b>Total Maximum Marks</b> |                                     | <b>320</b>           | <b>480</b> | <b>800</b> | <b>Total Maximum Marks</b> |                                       | <b>320</b>           | <b>480</b> | <b>800</b> |



**North Maharashtra University, Jalgaon**  
(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

**STRUCTURE OF MASTER IN BUSINESS ADMINISTRATION (M.B.A.)**

W.E.FROM JULY 2014

**1. TITLE OF THE DEGREE**

This degree shall be titled as Master in Business Administration (MBA) with the mention of Specialization in the bracket as "MBA (Specialization)". This new curricula shall be effective from July 2014.

**2. DURATION**

The regular Full Time Course shall be of 2 Years duration; comprising of 4 Semesters through Theory papers, Practical, Project report, Field work, Viva-voce, and such other Continuous Evaluation Systems as may be prescribed, in this respect, from time to time.

**3. ELIGIBILITY FOR ADMISSION**

As per admission rule framed by the Directorate of Technical Education, Government of Maharashtra.

**4. PATTERN**

- 3.1. The suggested curriculum comprises 32 papers. Similarly, the student has to opt for one specialization as specialization comprising 8 papers, of which for 1 paper the student has to undergo Summer Internship Project for minimum period of 7 weeks and 1 paper on field work/Survey Report.
- 3.2. Each semester will have 8 papers of 100 marks each, thus comprising 3200 marks for the Degree.
- 3.3. The external assessment shall be based on external written examination to be conducted by the university at the end of the each semester.
- 3.4. The student shall not be allowed to appear for the semester examination unless the Head/Director of the Department/Institution certifies completion of internal work, regularity, practical etc. The institution / Department shall submit alongwith this certificate Internal marks to the COE of the University.
- 3.5. CGPA system as devised by the University shall be applicable.
- 3.6. Continuous evaluation of the students shall comprise the 60+40 pattern; where every paper of 100 marks, shall be divided as External evaluation of 60 marks and Internal continuous assessment of 40 marks.
- 3.7. Continuous Internal assessment may comprises-
  - 3.5.1. Two Class tests of 10 Marks each – Total 20 Marks
  - 3.5.2. 20 Marks for Classroom Paper Presentation, Research Paper Presentations at State Seminars, Research Paper Presentations at National Seminars, Publications in Journals, Practical (Computer related courses), Presentations of Case Study, Group Discussions, Book Review, Survey, Working Assignment, Active participation in Event Management, Industrial Visit, Placement Activities, Institutional Branding Activities, Visit to National/International Business Exhibitionist in related

subjects (at Least Two activity have to be completed by the student per semester per paper to be supervised and guided by the concerned subject teacher).

## **5. PASSING STANDARDS**

- 5.1. In order to pass the examination the candidate has to obtain 50% marks in aggregate & at least 40% marks for each head separately, that is 24 marks out of 60 (External) & 16 marks out of 40 marks (Internal) for all courses.
- 5.2. The student shall be allowed to keep the terms of the next year as per the University rules.

## **6. GUIDELINES FOR TEACHING**

- 6.1. There shall be at least 48 lecture hours per semester per course. The duration of the lectures shall be 60 minutes each. There shall be at least 14-16 weeks of teaching before commencement of examination of respective semester.
- 6.2. There shall be 4 lectures of 60 min duration / week / paper.
- 6.3. The semester workload is balanced with 8 full papers of 100 marks each / semester. Thus 384 lectures hours are considered for teaching sessions out of which and 48 lecture / sessions shall be used for continuous assessment.
- 6.4. Self-study shall be natural requirement beside the time table. The Faculty will have to exert a little extra for cultivating reading habits amongst the students.
- 6.5. The teaching method shall comprise a mix of Lectures, Seminars, Group discussions, Brain storming, Game playing, working assignment, Interactions with Executives etc. so as to prepare the students to face the global challenges as business executive for this Audio-visual aids and Practical field work should be a major source of acquiring knowledge.
- 6.6. Case study method preferably shall be used wherever possible for the better understanding of the students.
- 6.7. Each institute shall issue annual souvenir as well as a placement brochure separately to each student and a copy of the same shall be submitted to the university before the end of the year.

## **7. GUIDELINES FOR FIELD WORK/ SURVEY REPORT**

- 7.1. Each student shall have to undergo a field work/ Survey Assignment while 3<sup>rd</sup> Semester.
- 7.2. In the Third semester examination student were to do "field work/ Survey Assignment"; compulsorily based on social problems as mentioned in clause 7.4 below. Group of 2 students is allowed in this. The topic should be decided with consultation and guidance of internal teacher of the Institute having enough knowledge of survey. The field work should be necessarily Research oriented, Innovative and Problem solving.
- 7.3. The departments / institute shall submit the detailed list of candidate with field work/ Survey Assignment Title, name of the internal guide on or before 31st October of the second year.
- 7.4. The themes for field work should be related (Not Restricted) to Social issues such as -Education, Sanitation, Health, Village/Cottage Industry, Watershed Management, Problems Of Slum Area, Tribal Upliftment,

Rehabilitation, Superstitious (Andhashraddha), NGO, Study of Government Welfare Schemes, and as per necessity of the yearly social situation in that area, etc.

- 7.5. The student has to write a report based on the actual Field work, get it certified by the concerned Guide/teacher (With Minimum 2 years of teaching Experience) that the field work/ Survey Assignment has been satisfactorily completed and submit one typed copy of the same to the Head / Director of the institute.
- 7.6. Field work/ Survey Assignment shall be strictly based on primary data. The Sample Size shall be minimum 100.
- 7.7. Student is expected to formulate at least one hypothesis and use SPSS/PASW or similar software for data analysis and Hypothesis Testing.
- 7.8. field work/ Survey Assignment details should be displayed on institutes websites
- 7.9. field work/ Survey Assignment external viva shall be conducted at the end of Semester III
- 7.10. Viva Voce for one student shall be of minimum 12-15 minutes. The Student has to prepare PowerPoint presentation based on field work/ Survey Assignment to be presented at the time of Viva voce.
- 7.11. The field work/ Survey Assignment will carry maximum 100 marks, of which internal teacher shall award marks out of maximum 40 marks on the basis of work done by the student. Remaining marks shall be awarded out of maximum 60 marks by examining the student through compulsory PowerPoint presentations followed by Viva-voce, by the panel of the examiners comprises one internal & one External examiner to be appointed by the University. Maximum 30 projects per day will be evaluated by per panel.
- 7.12. No students will be permitted to appear for Viva-voce and Semester III examinations, unless and until (s) he submits the field work/ Survey Assignment before the stipulated time.

## **8. GUIDELINES FOR PRACTICAL TRAINING AND SUMMER INTERNSHIP PROJECT**

- 8.1. Each student shall have to undergo a practical training for a period of not less than 7 weeks during vacation falling after the end of either II<sup>nd</sup> Semester.
- 8.2. In the Fourth semester viva-voce examination student were to study "Project Work" individually on the basis of Specialization. No group work is allowed in this. The topic should be decided with consultation and guidance of internal teacher of the Institute at the end of the first year, so that the student can take up the training during the vacations. The Project should be necessarily Research oriented, Innovative and Problem solving.
- 8.3. The departments / institute shall submit the detailed list of candidate with Project Titles, name of the organization, internal guide & functional elective to the university on or before 31<sup>st</sup> January of the second year.
- 8.4. No teacher shall be entrusted with more than 15 students for guidance and supervision, in case if more students opt for specific specialization then, Director/Principal of the Institute/College shall certify such project work.
- 8.5. The student has to write a report based on the actual training undergone during the vacations at the specific selected business enterprise, get it certified by the concerned teacher and head of the department that the

Project report has been satisfactorily completed and submit Two typed copies of the same to the Head / Director of the institute.

- 8.6. It is responsibility of Director/Principal of concerned Institute to check the authenticity of Project.
- 8.7. Student may use SPSS software if required.
- 8.8. One of the reports submitted by the student shall be forwarded to the University by the Institute before 1<sup>st</sup> March.
- 8.9. The student shall submit Synopsis of Project duly signed by Project guide to concerned head. The Head has to forward the Synopsis by e-mail only to external supervisor appointed by University, if possible.
- 8.10. Project details should be displayed on institutes websites
- 8.11. Project viva shall be conducted at the end of Semester IV
- 8.12. Viva Voce for one student shall be of minimum 10-15 minutes. The Student has to prepare PowerPoint presentation based on Project work to be presented at the time of Viva voce.
- 8.13. 10 % of the projects May be given by institute to the students for summer training as basic research projects to be supervised under faculty having enough exposure & knowledge of research.
- 8.14. The project work will carry maximum 100 marks, of which internal teacher shall award marks out of maximum 40 marks on the basis of project work done by the student as a continuous assessment. Remaining marks shall be awarded out of maximum 60 marks by examining the student during Viva-voce, by the panel of the external examiners to be appointed by the University.
- 8.15. No students will be permitted to appear for Viva-voce and Semester IV examinations, unless and until (s) he submits the project report before the stipulated time.

## **9. ADDITIONAL MAJOR SPECIALIZATION**

- 8.1. The student who has passed MBA of this University with a specific specialization may be allowed to appear for MBA examination again, with other specialization by keeping term for the III<sup>rd</sup> and IV<sup>th</sup> semester for the so opted 8 papers of additional specialization. He has to appear for 8 papers including Project report of the additional specialization so opted.
- 8.2. He shall be given exemption for all other papers.
- 8.3. The student has to pay only Tuition fees for one year as may be prescribed from time to time for this purpose.
- 8.4. The student is not entitled to receive separate Degree Certificate or Class for this additional specialization.

## **10. STRUCTURE OF THE QUESTION PAPER**

- 9.1. Each question paper shall be of 60 marks and of 3 hours duration.
- 9.2. **For Theory papers** there will be 2 Sections. In section I a candidate shall be required to answer 3 questions out of 5 questions & in section II (s)he shall be required to answer 2 questions out of 3 questions. All questions shall carry equal marks i.e. 12 marks each.

- 9.3. **For Composite papers (theory and practical / problems)** there will be 2 sections. In section I (practical/problem) a student shall be required to answer 3 questions out of 5 questions & in section II (Theory) (s)he shall be required to answer 2 questions out of 3 questions. All questions shall carry equal marks i.e. 12 marks each.
- 9.4. **For papers including case studies(101, 106, 206, 301, 303 & 403)** there shall be 2 Sections. In Section I (Theory) a student shall be required to answer 3 questions out of 5 questions & in Section II (Case studies) 2 case Studies out of 3 case studies to be attempted by the students. All questions shall carry equal marks i.e. 12 marks each.
- 9.5. **For case studies (Specialization Paper - 406)** out of 5 cases 3 cases should be attempted by the student. Each case shall carry 20 marks.

## 11. ELIGIBILITY OF THE FACULTY

Strictly As per norms fixed by AICTE / UGC and North Maharashtra University ([www.nmu.ac.in](http://www.nmu.ac.in))

## 12. JOB OPPORTUNITIES

In India, a Masters in Business Administration is considered as an attractive career option as after pursuing this degree, the demand of a student in the industry goes up. It is such a degree which makes students ready for a Managerial level role in the chosen field.

- Finance forms a major part of the operations of any company and there are great opportunities lying ahead for students of MBA finance, The prime areas where opportunities occur are **Commercial Banking, Corporate Finance**, Apart from these there are openings as financial planner, credit manager, investor relations officer, insurance advisor, risk management, money management, real estate planner and investment banking.
- Marketing is another common career path for MBA grads. Most large businesses, and many small businesses, utilize marketing professionals. Career options exist in areas of branding, advertising, promotions, and public relations. Some of the job titles include marketing manager, branding specialist, advertising executive, public relations specialist, and marketing analyst.
- HR is another field which is in demand in both public and private sector organizations. One can seek employment in public and private sector industries, banking and financial institutions, corporate houses, and multinational companies.
- Operations and Materials management specialization offers a very good scope to graduate engineers and can seek jobs in areas such as Material controls specialist, Inventory control specialists, Material planner, Loss control specialist, Production departments and quality assessment department.
- The Information Technology field also needs MBA grads to oversee projects, supervise people, and manage information systems. Career options are bright for IT and Systems mgt specialization. Many MBA grads are chosen to work as project managers, information technology managers, and information systems managers.
- Agriculture is the backbone to the Indian economy. This sector occupies 17.5% rate in the national GDP. Every company that is doing business transactions with farmers come under the agribusiness sector. Therefore opportunities for Agro business management students are tremendous; students can join in the warehousing,



retail, seeds companies, fertilizers and pesticides companies, banks and insurance sectors. They can join management experts in the agriculture related industries, policy makers in financial industries. A career in agriculture consultancy, journalism, agri banking, hi-tech farming and agriculture engineering sectors also is a possibility.

- Apart from all these fields, there exists an opportunities in the export field with specialization as International Business Management. This field has got vast scope in the wake of globalization. The world became small as far as business and technology is concerned, this poses lot of challenges for international business opportunities.
- Retail Industry is one of the fastest changing and vibrant industries in the world, and has contributed to the economic growth of many countries. Indian retail sector has been rated as the fifth most attractive, emerging retail market in the world. Retail industry is expected to grow at a compound rate of 30 per cent over the next five years. Some of the opportunities available for students after specializing in retail are Customer Sales Associate, Department Manager, Floor Manager, Category Manager, Store Manager, Retail Operation Manager, Visual Merchandisers Manager, Back-end Operations Logistics, Warehouse Managers, Retail Communication Manager and Retail Marketing Executives.
- Hospitality management specialization students can find work in catering, conference and events management, the entertainment and leisure sector, facilities management, food service management as well as Hospital Management and Tourism industry. Self-employment is an option with experience, business sense and a sound plan.

Finally merely a buzz word, MBA, produces lot of opportunities; it is the responsibility of the student to capture the hand on knowledge to understand the changing needs of the corporate world. One has to make sure that this conceptual knowledge opens up the doors to enter into the “Corporate world” which is normally our aim. This means one can become a successful entrepreneur or a manager depends upon how he/she shapes up with the knowledge...MBA degree is a GATEWAY.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

### EQUIVALENCE OF OLD AND NEW COURSES FOR MASTER IN BUSINESS ADMINISTRATION (M.B.A.)

| Old Paper             | Old courses (w.e.f.- July 2011)       | New Paper | New courses (w.e.f.- July 2014)                            |
|-----------------------|---------------------------------------|-----------|--|
| <b>Semester-I</b>     |                                       |           |  |
| 101                   | Management Science                    | 101       | Management Science   |
| 102                   | Accounting for Managers               | 105       | Business Accounting  |
| 103                   | Managerial Economics                  | 103       | Managerial Economics                                       |
| 104                   | Information Technology for Managers   | 202       | Information Technology For Managers                        |
| 105                   | Introduction To Operations Mgmt.      | 208       | Operations Management                                      |
| 106                   | Organizational Behavior               | 106       | Organizational Behavior - I                                |
| 107                   | Corporate Social Responsibility       | 107       | Corporate Social Responsibility                            |
| 108                   | Corporate Communication Skills        | 102       | Corporate Communication Skills                             |
| <b>Semester - II</b>  |                                       |           |  |
| 201                   | Management Practices                  | 206       | Organizational Behavior – II                               |
| 202                   | Business Research Methods             | 201       | Business Research Methods                                  |
| 203                   | Global Economic Scenario              | 203       | Global Economics Scenario                                  |
| 204                   | Management Information System & ERP   | 302       | Management Information System & ERP                        |
| 205                   | Financial Management                  | 207       | Financial Management                                       |
| 206                   | Human Resource Management             | 104       | Human Resource Management                                  |
| 207                   | Marketing Management                  | 204       | Marketing Management                                       |
| 208                   | Quantitative Techniques               | 108       | Quantitative Techniques                                    |
| <b>Semester - III</b> |                                       |           |  |
| 301                   | Strategic Management                  | 301       | Strategic Management                                       |
| 302                   | Entrepreneurship & Project Management | 404       | Entrepreneurship & Project Management                      |
| 303                   | Legal Aspects of Business             | 303       | Legal Aspects Of Business                                  |
| 304                   | Specialization-I (Major)*             | 304       | Specialization-I   |
| 305                   | Specialization-II (Major)*            | 305       | Specialization-II  |
| 306                   | Specialization-III (Major)*           | 306       | Specialization-III   |
| 307                   | Specialization-IV (Major)*            | 307       | Specialization-IV  |
| 308                   | Specialization (Minor-I)**            |           | Three chances to be given of the same paper (308 minor-I)  |
| <b>Semester - IV</b>  |                                       |           |  |
| 401                   | e-Commerce & Excellence Management    | 402       | e-Commerce & Excellence Management                         |
| 402                   | Family Business Management            | 401       | Current Business Scenario                                  |
| 403                   | Indian Commercial Laws                | 403       | Indian Commercial Laws                                     |
| 404                   | Specialization-V (Major)*             | 405       | Specialization-V   |
| 405                   | Specialization-VI (Major)*            | 406       | Specialization-VI  |
| 406                   | Specialization-VII (Major)*           | 407       | Specialization-VII   |
| 407                   | Project Report & Viva-Voce*           | 408       | Project Report & Viva-Voce                                 |
| 408                   | Specialization (Minor-II)**           |           | Three chances to be given of the same paper (408 minor-II) |



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

### 301: Strategic Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To equip students with the core concepts, frameworks, and techniques of Strategic management and its applications

#### 1. Strategic Management and Establishment of Strategic Intent (6)

- 1.1 Introduction to Strategic Management- Evolution, Concept, Decision Making Process, Schools of thoughts, Definition, Process, Model to Strategic Management
- 1.2 Levels of Strategic Management,
- 1.3 Strategic Intent-Concept of stretch, Leverage and Fit, Strategies Vs Tactics
- 1.4 Nature, Characteristics, Formulations of -Vision, Mission, and Goals & Objectives, Balance Score Card

#### 2. Strategy Formulation

##### 2.1 Environmental Appraisal (4)

- 2.1.1 Concept
- 2.1.2 SWOT and PESTLE Analysis
- 2.1.3 Scenario Building
- 2.1.4 Environmental Scanning
- 2.1.5 Appraising Environment
- 2.1.6 Industry Analysis- Porter five forces analysis

##### 2.2 Organizational Appraisal (3)

- 2.2.1 Capability factors, Methods and Techniques
- 2.2.2 Structuring Organisational Appraisal

##### 2.3 Corporate Level Strategies (4)

- 2.3.1 Types-Introduction to Expansion, Stability, Retrenchment and combination of Strategies
- 2.3.2 Integration of Strategies
- 2.3.3 Diversification Strategies- Related and Unrelated

##### 2.4 Business Level Strategies (4)

- 2.4.1 Introduction
- 2.4.2 Porter's Generic Business Strategies
- 2.4.3 Tactics for Business Strategies
- 2.4.4 Strategies for Different Industry conditions (Industry Life Cycle Analysis)

#### 3. Strategic Analysis and Choice (5)

- 3.1 Process of Strategic Choice
- 3.2 Strategic Analysis- Corporate Portfolio Analysis- BCG Product Portfolio and
- 3.3 GE Nine Matrix Cell, Competitor Analysis
- 3.4 Strategic Plan

#### 4. Strategy Implementation (8)

- 4.1 Project Implementation
- 4.2 Procedural Implementation
- 4.3 Resource Allocation
- 4.4 Structural Implementation - Interrelationship of Structure and Strategy, Structures for Business and Corporate Strategies
- 4.5 Behavioural Implementation-Strategic Leadership, Composition Corporate
- 4.6 Culture, Corporate Politics and use of power
- 4.7 Functional Implementation- Vertical and Horizontal Fit
- 4.8 Internal and External Innovation, Implementing internal innovation

## **5. Strategy Evaluation and Control**

**(4)**

- 5.1 Strategic Evaluation- Nature, Importance and Barriers
- 5.2 Strategic Control and Operational Controls.
- 5.3 Techniques of Strategic Evaluation and Control

- 1.2. Comprehensive Cases on various strategic situations and at least 10 cases based on application of strategic management must be discussed & solved.**  
**(10)**

### **REFERENCE BOOKS**

1. Strategic Management and Business Policy-Azar Kazmi, The McGraw Hill
2. Business Policy and Strategic Management : Concepts and Applications- Vipin Gupta, Kamala Gollakota, R. Srinivasan -Prentice Hall India
3. Concepts in Strategic Management and Business Policy- Thomas L. Wheelen, J. David Hunger, Wheelen Thomas L.- Pearson
4. Strategic Management- P.Subba Rao – Himalaya Publishing House.
5. Strategic Management: Concepts and Cases – Upendra Kachru- Excel Books
6. Business Policy and Strategic Management: Text and Cases- Francis Cherunilam- Himalaya Publishing House.
7. Strategic Management- Garth Saloner, Andrea Shepard, Joel Podolny– Willey India
8. Strategic Management – B Hiriyappa – New Age International
9. Strategic Management – V.S.P. Rao , Harikrishna – Excel Books
10. Strategic Management: Concepts: Competitiveness and Globalization- Michael Hitt, R. Duane Ireland, Robert Hoskisson- Cengage Learning



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

## 302-Management Information System and ERP

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives:

- To explain students why information systems are so important today for business and management
- To evaluate the role of the major types of information systems in a business environment and their relationship to each other
- To assess the impact of the internet and internet technology on business electronic commerce and electronic business
- To identify the major management challenges to building and using information systems and learn how to find appropriate solutions to those challenges

### 1. Fundamentals of Management Information Systems (08)

#### 1.1. Concepts, Classification & Value of Information

#### 1.2. Information System : Open & Closed

#### 1.3. Management Information System

##### 1.3.1. Definition, Concepts & Meaning

##### 1.3.2. Components & Activities

##### 1.3.3. Types – Operation support system & Management support systems

##### 1.3.4. Control systems – Feedback & Feed forward systems

##### 1.3.5. MIS planning process – Steps in planning

##### 1.3.6. MIS design & Development Process – Phases

##### 1.3.7. Components of MIS

### 2. Process of Management Information System (08)

#### 2.1. System Analysis & Design

##### 2.1.1. Introduction & Need for System analysis

##### 2.1.2. System analysis of a new requirement

##### 2.1.3. Structured systems analysis & Design (SSAD)

#### 2.2. Development of MIS

##### 2.2.1. Introduction & Contents of MIS Long range plans

##### 2.2.2. Determining the information Requirement

##### 2.2.3. Management of Quality in the MIS

##### 2.2.4. Factors contributing in the Success & Failure of MIS

### 3. Application of Management Information System (12)

#### 3.1. Business Processes : Primary, Supportive & Administrative

#### 3.2. MIS in functional area

##### 3.2.1. MIS & Manufacturing sector

###### 3.2.1.1. Operational control & Research Systems

###### 3.2.1.2. Inventory Control System

###### 3.2.1.3. Manufacturing system: CIM, Process control & Machine control

##### 3.2.2. Marketing Information System: Marketing Research, Marketing planning, Sales analysis & Marketing control.

##### 3.2.3. Accounting Information system: Financial, Management & Cost accounting system

##### 3.2.4. Human Resource Development System: HRP system, Human Resource Information System

- 3.3. Service as a distinctive product
- 3.4. Transaction Processing System
- 3.5. Concept of Knowledge Based Expert System
- 3.6. Concept of Artificial Intelligence
- 3.7. Managerial Challenges of Information Technology : Success or Failure, Developmental & Ethical

#### **4. Support System (05)**

- 4.1. Decision Support System (DSS): Concept, Philosophy, Characteristic, Classes, Users of DSS
- 4.2. Executive Support System (ESS): Introduction, Components & Architecture
- 4.2.1. Office Information System: Document management & Communication system

#### **5. Enterprise Resource Planning (08)**

- 5.1. Concept/System
- 5.2. Drivers for implementing ERP
- 5.3. ERP architecture
- 5.4. ERP Solution Structure: Business operations, Technology & Implementation
- 5.5. Benefits of ERP
- 5.6. ERP Selection: Vendor evaluation, Technology evaluation & Solution evaluation
- 5.7. ERP Implementation: Customization & Precautions
- 5.8. Problems encountered with ERP
- 5.9. Service process optimization: Service processes & its benefits
- 5.10. ERP in the twenty-first century

#### **6. ERP – Technologies & Application (07)**

- 6.1. Business Process Re-engineering
  - 6.1.1. Meaning, Necessity& Principles
  - 6.1.2. Application of re-engineering
  - 6.1.3. Three R's – Rethink, Redesign & Retool
  - 6.1.4. Reengineering in service industry
  - 6.1.5. Quality & re-engineering
  - 6.1.6. Benefits & Limitations of re-engineering
- 6.2. Material Requirement Planning (MRP-I)
- 6.3. Manufacturing Resource Planning (MRP-II)
- 6.4 Assignment on ERP implementation in Manufacturing & Service sector.

#### **REFERENCE BOOKS**

1. Management Information System by Jawadekar – Tata McGraw Hill
2. Management Information System by Arora – Excel Books
3. Management Information System by Davis & Gordon - Tata McGraw Hill
4. Management Information System by James O'Brian- Tata McGraw Hill
5. Business Process Reengineering by K Sridhar Bhat – Himalaya Publishing House
6. Management Information System by C S V Murthy – Himalaya Publishing House
7. Management Information Systems (3/e) – Goyal - Macmillan
8. Enterprise Resource Planning by Alex Leon - Tata McGraw Hill
9. Enterprise Resource Planning by Ray - Tata McGraw Hill
10. Enterprise Resource Planning (Concept & Practices) by Garg, Venkitkrishnan– PHI
11. Enterprise Resource Planning by JyotindraZaveri - Himalaya Publishing House
12. Textbook of Enterprise Resource Planning Jaiswal Macmillan



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

### 303 Legal Aspect of Business

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives: -

- To provide the Basic knowledge about the different types of Contract.
- To increase the Understanding level of Individual about Sales of Goods act.
- To aware about the basic terms in the field of LLP Act 2008.
- To provide the practical aspects in the light of case study.

- 1. Law of Contract – “Indian Contract Act, 1872** (6)
  - 1.1. Introduction, Meaning, Definitions & Essentials of Contract
  - 1.2. Classification of Contract: - (i) Void, Voidable & Valid Contract (ii) Wagering Agreement, Contingent Contracts & Quasi-contracts
  - 1.3. Discharge of Contract
  - 1.4. Breach of Contract & Remedies
  - 1.5. Specific Contracts: - i) Indemnity & Guarantee ii) Agency iii) Bailment & Pledge
- 2. Law of Sale of Goods – “Sale of Goods Act, 1930”** (9)
  - 2.1. Contract of Sale of Goods: - i) Its essentials & types of Goods ii) Distinction between ‘Sale & Agreement to Sale’ Condition & Warranties: - i) Difference between Condition & Warranty ii) Express & Implied conditions & warranties iii) Doctrine of Caveat Emptor
  - 2.2. Transfer of Property: - i) Rules regarding Transfer of Property ii) Transfer of Title & Transfer of Title by Non-owners Performance of Contract of Sale: - Delivery, modes, rules etc.
  - 2.3. Unpaid seller & his rights
  - 2.4. Buyer’s right against Seller
  - 2.5. Concept of Auction Sale
- 3. Limited Liability Partnership Act 2008** (7)
  - 3.1. Meaning & Silent Features of LLP
  - 3.2. Incorporation of LLP
  - 3.3. Extent & Limitations of Liability
  - 3.4. Benefit or Advantages of LLP
  - 3.5. Difference between LLP & Partnership Firm
  - 3.6. Prima facie steps of conversion to LLP
    - 3.6.1. Partnership firm to LLP
    - 3.6.2. Private Limited Company to LLP
  - 3.7. Winding up & Dissolution
    - 3.7.1. Ways of winding up
    - 3.7.2. Circumstances in which LLP may be wound up by Tribunal
- 4. Law of Negotiable Instruments – “Negotiable Instrument Act, 1881”** (4)
  - 4.1. Introduction, Definition & Characteristics
  - 4.2. Parties to Negotiable Instruments
  - 4.3. Specimen & its Essentials - Promissory Note & Bill of Exchange

4.4. Cheque - Bearer & Crossed, Types of Crossing

4.5. Holder & Holder in due course

4.6. Rights/Privileges of Holder in Due course

**5. Intellectual Property Law – Patent, Copyright & Trade mark (12)**

5.1. **“The Patents Act, 2002”** - i) Application for Patent ii) Grant of Patent iii) Rights of Patentee iv) What inventions are not patentable? v) Revocation of Patents

5.2. **“Copyright Act, 1957** - i) Introduction ii) Duration of Copyright protection iii) Registration of Copyright iv) Infringement of Copyright – Exceptions

5.3. **“The Trade Marks Act, 1999”** - i) Introduction ii) Classification of Goods & Services iii) Procedure for registration of Trade Marks iv) Grounds for refusal of registration

**6. Case studies in Legal Aspects of Business – Typical cases based on the above topics only (10)**

**REFERENCE BOOKS**

1. Legal Aspects of Business by Akhileshwar Pathak – Tata McGraw Hill

2. Legal Aspects of Business by R.R.Ramtirthkar – Himalaya Publishing House

3. Mercantile Law by S.S. Gulshan – Excel Books

4. Mercantile & Commercial Law by Rohini Aggrawal – Taxman Publication



# Specialization – A – Financial Management

## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 304 A -Banking & Investment Management

60 + 40 Pattern: External Marks 60 +Internal Marks 40= Maximum Total Marks: 100

Required Lectures: 48 hours



#### Objectives:

- To study various operational areas of the bank management.
- To enable students to understand and analyze various investment alternatives

#### **1. Bank Management (08)**

- 1.1 Objectives, Evolution, Scope & functional areas of bank management
- 1.2 Functional areas: Deposit Mobilization, Credit planning & Management, Asset Management, Liability Management, Liquidity Management, Investment Management, Management of legal department, Office Management
- 1.3 Terms in banking- RTGS, NEFT, Franking Services

#### **2. Credit planning & Management (10)**

- 2.1 Objective & Scope
- 2.2 CRR, SLR, Bank Rate, Repo Rate, Reverse Repo Rate
- 2.3 Credit Culture
  - 2.3.1 Financial Analysis, Credit rating, Project Appraisal
  - 2.3.2 Consortium lending, loan Syndication
- 2.4 Priority Sector lending as per the RBI directives
- 2.5 NPA management-
  - 2.5.1 Meaning, Impact, Process
  - 2.5.2 Recovery mechanism and management
  - 2.5.3 Provisioning required as per RBI directives

#### **3. Co-operative Banking (04)**

- 3.1 Meaning, Nature and Types
- 3.2 Governance & reforms in co-operative banking
- 3.3 State Co-op agriculture & Rural Development banks

#### **4. Investment Avenues (08)**

- 4.1 Concept, Objectives, Characteristics, Attributes, Factors favorable for Investment
- 4.2 Investment Avenues
  - 4.2.1 Non Marketable fixed Income avenues- Bank Deposit, Corporate Fixed Deposit, Provident Fund including PPF, National Saving Certificate
  - 4.2.2 Marketable Avenues- Shares, Debentures, Bonds, Private Equity & Venture Capital
  - 4.2.3 Other Avenues: Units of Mutual fund, Life Insurance, Real Estate, Money Market Instruments.

#### **5. Security Analysis (09)**

- 5.1 Concept of Security & Security analysis
- 5.2 Fundamental Analysis : Economic Analysis, Industry Analysis, Company Analysis
- 5.3 Technical Analysis: Technical Assumptions
- 5.4 Technical Vs Fundamental analysis
- 5.5 Efficient Market Theory

#### **6 Portfolio Analysis & Management (09)**

- 6.1 Meaning, Elements & Measurement of Risk, Systematic Risk & Unsystematic risk

- 6.2 Optimal Portfolio, Selecting the Best portfolio, Markowitz Model of Portfolio Selection
- 6.3 Portfolio revision: Meaning, Need, Strategies & Constraints
- 6.4 Performance Evaluation of Portfolios – (Theory only)
- 6.5 Portfolio Management: Meaning, Phases, Strategies, Asset Allocation, Building Investment Portfolio

#### REFERENCE BOOKS

1. Introduction to Banking: Vijayaragavan Iyengar – Excel Books
2. Merchant Banking & Financial Services – Dr. K Ravichandran - Himalaya
3. Investment Management by V. A. Avdhani , Himalaya Publishing House
4. Fundamentals of Investment Management - Geoffrey Hirt, Stanley Block –Tata Mcgrew Hill
5. Investment Analysis & Portfolio Management by Ranganathan - Pearson
6. Investment Management: Security analysis and portfolio Management by V. K. Bhalla - S. Chand
7. Investments – Bodie, Kane, Marcus, Mohanty – Tata McGraw Hill
8. Security analysis and portfolio Management by V.A.Avadhani - Himalaya
9. Security analysis and portfolio Management by Rohini Sing – Excel Books



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

### FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

**SEMESTER: III**

### **305 A – Tax Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

#### **Objectives:**

- To understand various provisions of Direct and Indirect Tax Laws and the compliance Procedures.
- To study the compliance procedures under Direct and Indirect Tax Laws .

#### **1. Income Tax :**

**(34)**

- 1.1. Basic concepts: agricultural Income, Assessee, Assessment Year, Income, Person , Gross Total Income, Previous year, Capital and Revenue Receipts, , Capital and Revenue Expenditure, Exempted Incomes, Residential Status.
- 1.2. Heads of Income:
  - 1.2.1. Salary: Allowances, Perquisites, Deductions, Practical Problems
  - 1.2.2. Income from House Property: let out property, self-occupied properties, deductions, Practical problems
  - 1.2.3. Income From Business or Profession: Depreciation and other permissible Deductions, Disallowable Expenses, Provisions regarding Tax Audit, Practical Problems
  - 1.2.4. Capital gains: Capital assets, transfer, cost of acquisition, cost of improvement, exemptions, Practical Problems
  - 1.2.5. Income from Other Sources: Incomes, Deductions, grossing up, Practical Problems
- 1.3. Deductions from Gross Total Income: u/s 80C, 80D, 80 E, 80 G, 80GG
- 1.4. Tax Deducted at source , Advance Tax, PAN , TAN , Submission of Returns , e-filing of ITR

#### **2. Central Excise :**

**(6)**

- 2.1. Nature of Excise Duty, Basic concepts-Assessee, Goods and Excisable Goods, Classification of goods , Factory , Manufacture & Production, Deemed Manufacture, Manufacturer, Sale & Purchase, Wholesale Dealer, Central Excise Tariff, valuation of Excisable Goods, Specific Duty Vs. Ad valorem Duty, Maximum Retail sale Price, CENVAT Credit, Registration Procedure

#### **3. Service Tax:**

**(4)**

- 3.1. Features, Exemptions and threshold limits, Gross Value of Services, Registration, Payment, Furnishing of Returns, An Overview of Taxable Services

#### **4. VAT:**

**(4)**

- 4.1. Definitions: Agriculture, Business, Capital Asset, Dealer, Goods, Place of business, Purchase Price, Sale price, Resale, Turnover of Purchase and Turnover of Sale. Incidence of Tax, Registration, Returns, Audit.

#### **REFERENCE BOOKS**

1. Students guide to Income Tax , Vinod Singhaniya & Kapil Singhaniya, Taxmann Publications
2. Income Tax law, Mehrotra, Sahitya Bhawan, Agra
3. Direct Taxes, Girish Ahuja and Ravi Gupta, Bharat Publications
4. Direct Taxes, T N Manoharan, Snowwhite Publications.
5. Direct Taxation, Dr Meena Goyal, Biztantra Publications
6. Indirect Taxes, V S Datey, Taxmann Publications
7. Indirect Taxes : V. K. SAREEN and MAYA SHARMA, Kalyani Publishers.
8. Students' Guide to Indirect Taxes : Yogendra Bangar, Vandana Bangar, and Vineet Sodhani – Aadhya Prakashan Pvt Ltd., Jaipur
9. Systematic Approach to Indirect Taxes – Dr Sanjiv Kumar – Bharat Law House Pvt. Ltd., New Delhi.
10. Service Tax : Law, Practice & Procedure – C. Parthasarathy, Sanjiv Agrawal – Snow White Publications Pvt. Ltd., Mumbai
11. Government of India- Income Tax Manual
12. Income Tax Act and Latest Finance Act.



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

### FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

#### SEMESTER: III

### 306 A –Strategic Financial Management

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To study the financial resources which can maximize the value of the business.
- To enable students to understand importance of strategies such as Merger, takeover, Joint Venture etc. that enhance the firms competitive strengths.
- To enhance the ability of students as regards the financial decision making in rapidly changing global economic environment.

#### 1. Capital Structure & Leverages (15)

##### 1.1 Capital Structure

1.1.1 Meaning & Features & Determinants

1.1.2 Approaches to Capital Structure

##### 1.2 Indifference Point

1.2.1 Meaning

1.2.2 Problems on Computation of Indifference Point

##### 1.3 Computation of Cost of Capital

1.3.1 Meaning & Significance

1.3.2 Problems on Weighted Average Cost of Capital

1.3.3 Under & Over Capitalization

##### 1.4 Leverages

1.4.1 Meaning & Types

1.4.2 Problems on Computation of Operating, Financial & Combine Leverages

#### 2. Capital Budgeting Techniques: (12)

2.1 Payback period Method

2.2 Rate of return Method

2.3 Net Present Value Method

2.4 Internal rate of Return Method

2.5 Profitability Index

2.6 Replacement Decision

2.7 Lease or Hire- Purchase or Buy Decision

#### 3. Dividend Policy (5)

3.1 Determinants of Dividend

3.2 Problems on Dividend Theories: Walter approach, Gordon Growth Model

#### 4. Strategic Financial Management (4)

4.1 Strategic Planning: - Meaning

4.2 Strategic Management: - Meaning & Importance

4.3 Strategic Decision Making Framework

4.4 Interface of Financial Policy & Strategic Management

#### 5. Turnaround Management (8)

##### 5.1 Corporate Sickness

5.1.1 Definition, Causes & Symptoms of sickness

5.1.2 Prediction of Sickness, Revival of Sick Units.

##### 5.2 Types of Turnaround

5.2.1 Basic Approaches

5.2.2 Phases in Turnaround Management.

**5.3 Mergers and Takeover :**

5.3.1 Mergers & Acquisitions: Kinds, Motives, Reasons

5.3.2 Major Causes of Mergers & Acquisitions failures

5.3.3 Post-Merger Integration Issue

**5.4 Takeovers**

5.4.1 Meaning

5.4.2 Kinds of Takeovers

5.4.3 Stages of Hostile Takeover

5.4.4 Defensive Measures

**6. Corporate Restructuring**

**(6)**

6.1 Meaning, Need, Areas, Implication

6.2 Steps in Financial Restructuring

6.3 Joint Ventures & Strategic Alliance

6.4 Leveraged Buyout

**REFERENCE BOOKS**

1. Strategic financial Management , Ravi M. Kishore, Taxman Publication
2. Strategic Financial Management By Saravanan – Oxford Uni. Press
3. Strategic financial Management, A. N. Sridhar , Shroff Publishers & Distributors Pvt. Ltd
4. Strategic Management' Sharplin McGraw Hill
5. Strategic financial Management , J B Gupta, Taxman Publication
6. Financial Management- I. M. Pandey – Vikas Publication
7. Financial Management by Berk – Pearson Publication
8. Financial Management – Prasanna Chandra



**North Maharashtra University, Jalgaon**  
(NACC Accredited 'B' Grade University)  
**FACULTY OF COMMERCE & MANAGEMENT**  
New Syllabus: M.B.A.  
**SEMESTER: III**

**307A Practical Aspects of Business**

60 + 40 Pattern: External Marks 60 (Theory) + Internal Marks 40 (Practical) = Maximum Total Marks: 100  
Required Lectures: 48 hours (Theory 28 hours, Practical: 20 hours )

**Objectives of the course:-**

- To enable students to learn how to record accounting operations in Tally Software.
- To establish a connection between theories, concepts & principles of Accounts & Finance with practical business operations.
- To understand the importance of Advanced Excel in business operations in order to perform complex business calculations and preparation of Financial Reports

**TALLY**

**1. Basics of Tally (6)**

- 1.1 Distinction between Computerized Accounting & Manual Accounting
- 1.2 Introduction to Tally
- 1.3 Versions & Features of Tally
- 1.4 Creation of Company Process - (by taking hypothetical information for the Co. to be created)
- 1.5 Alteration of Company Process - (by taking hypothetical information which is to be altered)
- 1.6 Deletion of Company - Create a company Temporary Friends Pvt. Ltd. By using hypothetical information and then write process to delete

**2. Groups & Vouchers, Stock item in Tally (14)**

- 2.1 Introduction to Gate way of Tally
- 2.2 Process of Creation of Groups in Tally
- 2.3 Process of Creation of Ledgers in Tally
- 2.4 Process of Creation of Vouchers in Tally  
Purchase, Sales, Contra Voucher, Receipt, Payment vouchers.
- 2.5 Process of showing Financial Statements in Tally- Trial Balance, P & L A/c, Balance Sheet
- 2.6 Procedure to create of Stock items & stock groups in Tally
- 2.7 VAT Features, Computation of VAT in Tally

**Advanced Excel**

**3. Introduction to Excel & Financial Functions (6)**

- 3.1 Introduction to Excel
- 3.2 Data Entry- Text, Number, Formulae, Functions (AVERAGE, SUM, PRODUCT, COUNT, MIN, MAX)

3.3 Importance of Financial Functions

3.4 Syntax & benefits of following Financial Functions in Excel -

FV, PV, PMT, PPMT, DB, SLN, IRR, NPV

#### **4. Pivot Table, Charts & Bars, V look up & H Lookups Functions (4)**

4.1 Importance of Pivot Table

4.2 Importance of Bars /Pie- Charts

4.3 Importance of V lookup & H Lookup Functions in Excel

### **Audit**

#### **5. Basics of Audit (12)**

5.1 Meaning & Significance of Audit

5.2 Difference between Accounting and Auditing, Difference between Auditing and Investigation

5.3 Internal Control, Audit Evidence, Audit Report

5.4 AAS-1 Basic Principles Governing an Audit

5.5 Types of Audit- Statutory Audit, Internal Audit, Balance Sheet Audit, Tax Audit, VAT Audit

5.6 Limitations of auditing

#### **6. Auditing in Computerized Information System (CIS) Environment: (8)**

6.1 Meaning of CIS

6.2 Approaches to Computer Auditing- Black Box & White Box

6.3 Characteristics of CIS Environment

6.4 Computer Frauds

### **Practicals**

#### **TALLY**

#### **Assignment : 1**

##### **Creation, Deletion and alteration of company**

A. Create a Company **MBA Friends Pvt. Ltd.** With following details

Enter the hypothetical details e.g. Address, State, PAN No. etc.

Select Accounts with Inventory option, Use 1-4-20XX(Current Financial Year) as the date of commencement of business.

**B. Alteration of Company details :-**

Alter the Following Details MBA Friends Pvt. Ltd.

Address & contact no. and save the alterations. .(Show Pop-up Menu before Saving changes).

**C. Deletion of the Company:-**

Create a Company **MBA Temporary Friends Pvt. Ltd.** With following details

Enter the hypothetical details e.g. Address, State, PAN No. etc.

Now, delete the company. (Show Pop-up Menu before deletion)

Select Accounts with Inventory **OR** only Accounts option, Use current financial year as the year of commencement and then **delete the Company**

{**Note :-** In this practical students are required to take print out before saving the information of Creation , Alteration and Deletion of companies }

**Assignment: 2.**

Creation of Ledger Accounts, assigning the proper groups and opening Balances of those accounts as on 31 March,2015 in the books MBA Friends Pvt. Ltd. as per the following the information

| Sr. No. | Date       | Ledger Names<br>(To Be Created) | Groups<br>(To Be Assigned) | Opening<br>Balances<br>(Rs.) |
|---------|------------|---------------------------------|----------------------------|------------------------------|
| 1       | 1-Apr-201X | Cash A/c                        | (Already Existing Group.)  | 5,00,000                     |
| 2       | 1-Apr-201X | Mr. X A/c                       | Sundry Debtors             | 50,000                       |
| 3       | 1-Apr-201X | Mr. Y A/c                       | Sundry Creditors           | 20,000                       |
| 4       | 1-Apr-201X | Mr. Y A/c                       | Sundry Creditors           | 30,000                       |
| 5       | 1-Apr-201X | Share Capital Account           | Capital A/c                | 10,00,000                    |
| 6       | 1-Apr-201X | SBI Bank A/c                    | Bank Account               | 5,20,000                     |
| 7       | 1-Apr-201X | Plant & Machinery A/c           | Fixed Assets               | 20,00,000                    |
| 8       | 1-Apr-201X | Land & Building A/c             | Fixed Assets               | 30,00,000                    |
| 9       | 1-Apr-201X | Furniture & Fixture A/c         | Fixed Assets               | 5,00,000                     |
| 10      | 1-Apr-201X | Bank of Maharastra Loan A/c     | Loans & Advances           | 1,00,000                     |

(**Note :** Students are required to take the current financial year for accounting entries)

**Assignment: 3 –**

Journalize the following (by Using Proper Vouchers in Tally) in the books of **MBA Friends Pvt. Ltd.** along with their appropriate narrations:-

- Paid Rs.30,000 as Salary for the month of April on 1<sup>st</sup> May,20XX
- Paid Telephone bill Rs.2,000 through SBI Bank Cheque No. 543210 on 5<sup>th</sup> May,20XX
- Received a cheque Rs. 20,000 from Mr.X (Cheque No.700001) which is deposited in SBI Bank A/c (No.SBIIND123456789) on 8<sup>th</sup> May,20XX
- Purchased Machinery of Rs.50,000 through SBI BANK Cheque No 123456 on 1<sup>st</sup> June, 20XX
- Purchased goods of Rs.1,70,000 from Mr.Y for Cash on 1<sup>st</sup> Aug,20XX  
Create 3 hypothetical stock items; specify rates per unit and total amount.
- Sold Goods of Rs.2,00,000 for cash to Mr. X on 10<sup>th</sup> June,20XX  
Take any one stock item from entry (e) above for sale, Specify hypothetical prices.

**Note:-** In above transactions students need to create Purchase & Sales A/c i.e. Ledgers , other Ledgers are already created in Assignment No. 2.



#### **Assignment: 4**

Considering the transactions in Assignment no.1,2,3 above, Show Trial Balance , Trading Accounts & Profit & Loss Accounts and Balance sheet as on 31<sup>st</sup> March,20XX for MBA Friends Pvt. Ltd.

#### **Split Company Data**

Split company data in Tally up to 31<sup>st</sup> Jan, 20XX and now Make Zip File of the Data up to 30<sup>th</sup> Jan, 2015 and email it to your tax consultant Mr. Ganesh Maurya on his email Id : [ganesh@maurya.com](mailto:ganesh@maurya.com)

**And**

#### **Export of Data in Excel**

Export data from Tally containing the Trial Balance, Trading Accounts And Profit & Loss Accounts and Balance sheet as on 31<sup>st</sup> March, 20XX in Excel Format.

### **ADVANCED EXCEL**

#### **Assignment No: 5**

#### **Loan Amortization Schedule**

Use PMT function & calculate the monthly payment on a loan with an annual interest rate of 5%, 2-year duration and a present value (amount borrowed) of 20,000.

*Name the input cells as:-*

| Payment Number | Payment | Principal | Interest | Balance |
|----------------|---------|-----------|----------|---------|
|----------------|---------|-----------|----------|---------|

2. Use the PPMT function to calculate the principal part of the payment.

3. Use the IPMT function to calculate the interest part of the payment.

4. Update the balance.

5. It takes 24 months to pay off this loan.

Show how the principal part increases and the interest part decreases with each payment.

#### **Assignment No: 6**

#### **Calculation of Depreciation as per accounting principles & as per Income Tax Act,1961**

##### **A) As per Accounting Principles**

Consider an asset with an initial cost of Rs. 10,000, a salvage value (residual value) of Rs.1000 and a useful life of 10 periods (years).

You are required to calculate -

- i) Depreciation using Straight Line Method using above information
- ii) Depreciation using Written Down Value Method rate @ 10 % p.a.
- iii) Also write interpretation.

## B) As per Income Tax Act,1961

The following table shows the opening WDV, Addition and sale of Fixed Assets during a particular Financial Year along with rate of Depreciation .You are required to calculate the Total amount of Depreciation as per the Income Tax Act, 1961 ?

| Sr.No. | PARTICULARS         | W.D.V. AS<br>ON<br>01.04.20XX | ADDITION<br>DURING<br>THE<br>YEAR<br>BEFORE<br>30.09.XX | AFTER<br>30.09.XX | SALE<br>DURING<br>THE<br>YEAR | RATE<br>OF<br>DEPR<br>% |
|--------|---------------------|-------------------------------|---|-------------------|-------------------------------|-------------------------|
| 1      | Furniture & Fitting | 3,00,000                      | 1,00,000  | -                 | 50,000                        | 10                      |
| 2      | Buliding            | 10,00,000                     | 3,00,000  |                   | -                             | 10                      |
| 3      | Motor Car           | 4,00,000                      | -   | -                 | 1,00,000                      | 15                      |
| 4      | Plant & Machinery   | 20,00,000                     | -   | 4,00,000          | -                             | 15                      |
|        | Total Rs.           | 37,00,000                     | 4,00,000  | 4,00,000          | -                             | -                       |

**Note : -Rate of Depreciation as per Income Tax Rules Depreciation is Charged on block of Assets .**

The asset purchased during the year before 30 Sept (put to use for more than 180 days is charged with full rate of depreciation whereas for the asset purchased during the year after 30 Sept (put to use for less than 180 days ) is charged with half rate of depreciation.]

Refer Income Tax Act,1961 for more details.

### Assignment No: 7 Compound Interest Calculation

- 1) Assume you put Rs.100 into a bank. How much will your investment be worth after one year at an annual interest rate of 8%?
- 2) Now this interest will also earn interest (compound interest) next year. How much will your investment be worth after two years at an annual interest rate of 8%?
- 3) How much will your investment be worth after 5 years?
- 4) Assume you put Rs. 10,000 into a bank. How much will your investment be worth after 10 years at an annual interest rate of 5% compounded monthly?
- 5) Assume you put Rs. 10,000 into a bank. How much will your investment be worth after 15 years at an annual interest rate of 4% compounded quarterly?

### **Assignment: 8 Creation of Income Tax Calculator**

**Prepare a Income Tax Calculator in Excel to calculate Income Tax on the Net Taxable Income of Following 6 Assesseees .**

| <b>Sr.No.</b> | <b>Name of Assessee</b> | <b>Net Taxable Income (Rs.)</b> |
|---------------|-------------------------|---------------------------------|
| 1             | Mr. Ganesh              | 4,25,000                        |
| 2             | Mr. Jayesh              | 3,10,000                        |
| 3             | Mr.Suresh               | 7,25,000                        |
| 4             | Mr.Nilesh               | 6,80,000                        |
| 5             | Mr.Shailesh             | 11,00,000                       |
| 6             | Mr.Ramesh               | 15,10,000                       |

**Students are required to show in their Print outs.**

- The Applicable Slab and Tax Rates and coding required to calculate the Income Tax ( Exclude Education Cess in Calculation )
- Final Table Showing Income Tax Calculated for above 6 Assesseees.

**(Note : Student should take Income Tax Slab Rates as per the applicable Assessment Year for the particular Financial year in which they are pursuing this practical )**

### **Assignment: 9 Creation of Pie Chart & Bar Chart (2 Dimension or 3 Dimensional) & Interpretation.**

**Create Pie Chart & Bar Graphs from the following Particulars for -**

- Sales & Net Profit**

| <b>Sr.No.</b> | <b>Particulars</b> | <b>2011-12</b> | <b>2012-13</b> | <b>2013-14</b> |
|---------------|--------------------|----------------|----------------|----------------|
| 1             | Sales              | 40,00,000      | 45,00,000      | 50,00,000      |
| 2             | Net Profit         | 8,00,000       | 11,25,000      | 5,00,000       |

- Sales & Sundry Debtors**

| <b>Sr.No.</b> | <b>Particulars</b> | <b>2011-12</b> | <b>2012-13</b> | <b>2013-14</b> |
|---------------|--------------------|----------------|----------------|----------------|
| 1             | Sales              | 40,00,000      | 45,00,000      | 50,00,000      |
| 2             | Sundry Debtors     | 2,00,000       | 5,00,000       | 6,00,000       |

**Write Interpretation for above Table (i) & (ii)**

### **Assignment: 10 Ratio Analysis**

**From the following particulars Calculate following Ratios for Given 3 Years Financial Year -**

| Particulars          | 2011-12<br>Rs. | 2012-13<br>Rs. | 2013-14<br>Rs. | Particulars                  | 2011-12<br>Rs. | 2012-13<br>Rs. | 2013-14<br>Rs. |
|----------------------|----------------|----------------|----------------|------------------------------|----------------|----------------|----------------|
| Sales                | 10,00,000      | 12,00,000      | 15,00,000      | Bills<br>Receivable          | 50,000         | 60,000         | 80,000         |
| Net Profit           | 1,50,000       | 2,40,000       | 3,15,000       | Cash in<br>Hand              | 40,000         | 60,000         | 70,000         |
| Capital              | 5,00,000       | 10,00,000      | 11,00,000      | Cash at<br>Bank              | 1,10,000       | 1,50,000       | 1,80,000       |
| Land &<br>Building   | 2,00,000       | 7,00,000       | 8,00,000       | Prepaid<br>Expenses          | 30,000         | 40,000         | 50,000         |
| Plant &<br>Machinery | 3,00,000       | 4,00,000       | 5,00,000       | Sundry<br>Creditors          | 40,000         | 60,000         | 70,000         |
| Sundry<br>Debtors    | 40,000         | 50,000         | 70,000         | Bills<br>Payable             | 20,000         | 15,000         | 25,000         |
| Stock                | 60,000         | 70,000         | 80,000         | Provision<br>for<br>Taxation | 10,000         | 20,000         | 40,000         |

#### **Calculate:**

1. Net Profit Ratio
2. Current Ratio
3. Liquid Ratio
4. Debtor Turnover Ratio
5. Fixed Assets Turnover Ratio

Also write interpretation for above Ratios by comparing 3 years Ratios.

#### **References :-**

##### **Websites :**

1. <http://www.tallysolutions.com/>
2. <http://tallyerp9book.com/>

##### **Books :-**

1. Tally.ERP 9: Basic Accounts, Invoice, Inventory by Asok K. Nadhani (Author)
2. Tally ERP 9 (English) Paperback – 2014 by Mr. Tarang (Author)
3. Excel With Excel (English) Author: **Rajesh Seshadri**
4. Excel 2010 in Simple Steps Paperback –by Kogent Learning Solutions Inc.
5. Auditing – **N. D. Kapoor**
6. Auditing- **G. Shekhar**

## Specialization –B – Marketing Management



### North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

**SEMESTER: III**

#### **304 B: Product and Brand Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives

1. To equip the students with the various dimensions of Product and Brand management
2. To develop familiarity and competence with the strategies and tactics involved in building, leveraging and defending strong Products and Brands

#### **1. Introduction (6)**

- 1.1. Need for Product Management, Product Line Decision, Product Mix Decision
- 1.2. Product Manager- Functions and Skills Required
- 1.3. Marketing Strategies in different Phases of PLC, PLC Extension, Diffusion Model
- 1.4. Issues of Product Management in India
- 1.5. Marketing Planning- Concept, The Planning Process, Components of Marketing Plan, Two case Studies based on Marketing Plan

#### **2. Competitive Strategy for Products (12)**

- 2.1. Nature, Stages of competition, Forces Driving / Shaping competition, Forms of Competition
- 2.2. Category Attractive Analysis- Concept, Aggregate Market Factors, Category Factors and Environmental Analysis
- 2.3. Competitors Analysis- Nature, Sources of Information, Assessing competitor's- Objectives & Marketing Strategies, Differential advantage Analysis
- 2.4. Customer Analysis
- 2.5. Market Potential and Sales Forecasting- Methods

#### **3. Developing Product Strategy (6)**

- 3.1. Elements of Product Strategies
- 3.2. Positioning and Differentiation Strategies
- 3.3. Product Strategy over PLC
- 3.4. New Product Development- Factors contributing to New Product Development, Factors responsible for failing New Product, Managing New Product Development and Product Innovation- Setting Innovation Objectives, Methods and Steps

#### **4. Concept of Brand (6)**

- 4.1. Definition, Nature, Brand and Product, Brand challenges and Opportunities
- 4.2. Types of Brands, Brand Perspectives
- 4.3. Brand Evolution-Consumerism Continuum, Brand Levels, Value Hierarchy
- 4.4. Brand and Product Position, 3 Cs of Positioning and Competitive Positioning-POPs and PODs
- 4.5. Identifying and Establishing Brand Positioning
- 4.6. Strategic Brand Management Process

#### **5. Brand Equity (12)**

- 5.1. Concept, Customer Based Brand Equity
- 5.2. Criteria for choosing Brand Element, Options and Tactics for Brand Elements
- 5.3. Marketing Communication to Build Brand (Criteria for Integrating Marketing communication-IMC)
- 5.4. Leveraging Secondary Brand Associations to Build Brand Equity
  - 5.4.1. Conceptualising the leveraging Process

- 5.4.2.Co-Branding, Licensing, Celebrity Endorsement,
- 5.5. Measuring Brand Performance
  - 5.5.1.Qualitative Techniques- Free Association, Projective Technique, Brand personality
  - 5.5.2.Quantitative Techniques-Brand Awareness, Brand identity, Brand Image, Brand Responses, Brand Relationships, Brand Attitude , Brand Loyalty , Brand Switching
- 5.6. Measuring outcomes of Equity: Models of Brand Equity Aaker Model, Brandz Model, Brand Equity Measurement System, Brand Valuation
- 6. Brand Extensions and Managing Brand (6)**
- 6.1. Types, Advantage and Disadvantage, New Product and Brand Extensions
- 6.2. Managing Brand Over a Time-Reinforcing Brand, Revitalising Brand and adjustment to Brand Portfolio
- 6.3. Global Branding-Advantages and Disadvantages

#### REFERENCE BOOKS

1. Product Management- Lehmann Donald R ; Winer Russell S, Tata McGraw Hill
2. Brand Management: Text and Cases- Harsh V. Verma- Excel Books
3. Strategic Brand Management: Building, Measuring, and Managing Brand Equity-Kevin Lane Keller, M. G. Parameswaran, Isaac Jacob-Pearson
4. Product Policy and Brand Management-A.K. Chitale and Ravi Gupta, PHI Learning
5. Product Management Text and Cases- Kaushik, Mukerjee-PHI Learning
6. Product and Brand Management-U.C. Mathur, Excel Books
7. Marketing Management- Rajan Saxena (4<sup>th</sup> Edition), McGraw Hill
8. Marketing Concept and Cases- Michael J. Etzel, Bruce J. Walker, William J. Stanton and Ajay Pandit, Tata McGraw Hill
9. Principles of Marketing- Philip Kotler- PHI Learning
10. Brand Positioning Strategies for Competitive Advantage-Sengupta- Tata McGraw Hill



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### Paper: 305 B – Consumer Behavior and Service Marketing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To highlight the importance of learning about consumer behavior
- To develop understanding of the need to market services differently from general marketing
- To help students in learning different approaches required for effective marketing of services.

#### 1. KNOWLEDGE OF BUYERS (6)

- 1.1. Buyer behavior & Consumer decision making process
- 1.2. Factors influencing buying behavior & Post purchase behavior
- 1.3. Consumer Reference Groups
- 1.4. The family Life Cycle
- 1.5. Social Class and Consumer Behaviour
- 1.6. Organizational Buying Vs Consumer Buying

#### 2. INTRODUCTION TO SERVICES (8)

- 2.1. Understanding services phenomena
- 2.2. Characteristics of services
- 2.3. Differentiating services from goods
- 2.4. Role of services in economy
- 2.5. The service triangle management model
- 2.6. SERVQUAL
- 2.7. GAP model of customer satisfaction

#### 3. SERVICES MARKETING MIX (7PS) (10)

- 3.1. Marketing mix in services and traditional 4PS
- 3.2. Product
- 3.3. Price
- 3.4. Promotion
- 3.5. Place or distribution
- 3.6. People
- 3.7. Physical evidence
- 3.8. Process management

#### 4. CROSS CULTURAL CONSUMER BEHAVIOR: AN INTERNATIONAL PERSPECTIVE (8)

- 4.1. Diffusion and adoption of innovations
- 4.2. Cross-cultural consumer analysis
- 4.3. Cross cultural psychographic segmentation
- 4.4. Developing multinational marketing strategies
- 4.5. Cultural aspects of emerging international market

#### 5. INTEGRATED SERVICE STRATEGY (8)

- 5.1. Growth strategies for service businesses
- 5.2. Customer satisfaction measures
- 5.3. Service profit chain
- 5.4. Strategy for market leader, challengers, niche market and followers
- 5.5. Service performance metrics

#### 6. CUSTOMER RELATIONSHIP MANAGEMENT (CRM) (8)

- 6.1. Concept of CRM and CRM issues
- 6.2. Customer value
- 6.3. Standardization verses customization
- 6.4. CRM Objectives
- 6.5. CRM: Global Perspective
- 6.6. The scenario of CRM in Indian companies

#### REFERENCE BOOKS

1. Consumer Behavior, Schiffman G.L and Kanuk L.L, Prentice- Hall
2. Services marketing : ravi Shankar, Excel Book
3. Services marketing C Bhattacharjee, Excel Book
4. Services marketing Govind Apte, Oxford
5. Services marketing: Rajendra Nargundkar, Tata Mc Graw Hill
6. Marketing Management: A south Asian perspective; Philip Kotler, Kevin Lane Keller, Abraham Koshy Mithileshwar Jha, 14 ed, Pearson
7. Marketing Management, Rajan Saxena, Tata McGraw Hill
8. Marketing; Grewal, levy, Tata McGraw Hill
9. Services Marketing, Lovelock, Wirtz, Chatterjee; Pearson





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### Paper: 306 B– Sales & Distribution

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To impart knowledge about the selling function and highlight the managerial issues involved in sales management.
- To bring out the changes in distribution function and understand current practices

#### 1. Introduction to sales management (10)

- 1.1. Nature and Scope of Sales Management
- 1.2. Objectives of Sales management
- 1.3. Functions of Sales management
- 1.4. Prospecting for customers
- 1.5. Modes of sales presentation
- 1.6. Designing and delivering of sales presentation
- 1.7. Recruiting and selecting Sales Personnel
- 1.8. Methods and administering selection procedures

#### 2. Sales force involvement, evaluation and training (10)

- 2.1. Developing Sales Training Programs,
- 2.2. Executing and Evaluating sales training programs
- 2.3. Motivating Sales Personnel
- 2.4. Compensating sales personnel
- 2.5. Designing and Administering various Compensation Plans
- 2.6. Controlling Sales personnel
- 2.7. Managing sales evaluation programs
- 2.8. Comparing standards with actual performances of sales personnel;

#### 3. Sales force management (8)

- 3.1. Objective and Types of Quotas
- 3.2. Quota setting procedure
- 3.3. Administering the quota system
- 3.4. Designing Sales Territories
- 3.5. Allocating Sales efforts to sales territories

#### 4. Marketing channels, structure and distribution (6)

- 4.1. Functions and Relationships of channels of Distribution
- 4.2. Channel Dynamics
- 4.3. Channel Planning and organizational Patterns in Marketing Channels
- 4.4. Channel Design Process
- 4.5. Channel Management Decisions

#### 5. Channel intermediaries (8)

- 5.1. Channel Intermediaries- Role and Types
- 5.2. Wholesaling- Types of Wholesalers
- 5.3. Wholesaler marketing decisions
- 5.4. Retailing- Types of retailers
- 5.5. retailer marketing decisions

## **6. Market logistics**

**(6)**

- 6.1. Logistics Objectives,
- 6.2. Market logistics decisions for Distribution Channels
- 6.3. Role of Information System in Distribution Channel Management
- 6.4. Assessing Performance of Marketing Channels.

### **REFERENCE BOOKS**

- 1. Tanner, J; HoneycuttED; Erffmeyer Robert C.; Sales management: Pearson Education, 2009
- 2. R.S.N. Pillai :Marketing management, S. Chand
- 3. Still, R R. & Cundiff; Sales Management, Englewood Cliff, New Jersey, Printice Hall Inc.,
- 4. Anderson, R. Professional Sales Management. Englewood Cliff, New Jersey, Prentice Hall Inc., 1992.
- 5. Buskirk, R H and Stanton, W J. Management of Sales Force. Homewood Illonois, Richard D Irwin, 1983.
- 6. Dalrymple, D J. Sales Management: Concepts and cases. New York, John Wiley, 1989.
- 7. Johnson, E M etc. Sales Management: Concepts Practices and cases. New York, McGraw Hill, 1986.
- 8. Stanton, William J etc. Management of Sales Force. Chicago, Irwin,1988.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### Paper: 307 B: Global Marketing Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives

- to apply Global marketing theories, frameworks and concepts to managerial decision contexts

#### 1. Introduction to International Marketing (8)

- 1.1. International Market: Meaning, Expansion, Growing Attractiveness
- 1.2. International Marketing: Meaning, Need, Significance, Participants, Motives, Problems, Complexities
- 1.3. International Orientation & Stages
- 1.4. Scope of Marketing Indian Products Abroad
- 1.5. International market orientation- EPRG frame work;
- 1.6. International Marketing Environment:
  - 1.6.1. Internal, External, Domestic, Economic, Social, Cultural, Demographic, Technological, Political and Legal
  - 1.6.2. International Trading Environment
  - 1.6.3. Trading Blocs
- 1.7. International Market Entry Strategies & Modes

#### 2. International Product Strategy: (8)

- 2.1. Levels & Hierarchy of product, Product-line analysis, Product design Strategy
- 2.2. Product Life Cycle Management,
- 2.3. New Product Development, Product Positioning & Product Adoption , Repositioning Strategies
- 2.4. Product planning Matrix, Dimensions of Product Strategies
- 2.5. Product planning for global markets;
- 2.6. Standardization v/s Product adaptation;
- 2.7. Management of international brands: Brand Drivers
- 2.8. Packaging and labelling

#### 3. International Pricing (8)

- 3.1. Role of Pricing, Objectives, Factors affecting Pricing, Pricing decisions
- 3.2. Pricing Methods, Pricing Strategies, Cost based pricing, Transfer pricing, Dumping , Export price structure, Skimming Pricing, Penetration Pricing, Price discounts, Discriminating Pricing
- 3.3. Price-Market relationship, Price Escalation: cost of exporting, Taxes, tariffs & Administrative costs, Exchange rate
- 3.4. Price control: Approaches to lessening price escalation, Leasing in international markets
- 3.5. Currencies and foreign Exchange- Money, Foreign Exchange Market, Foreign exchange rate and its system, Evaluation of floating rates

#### 4. International Promotions (8)

- 4.1. Promotion Decisions: Complexities and issues; International advertising
- 4.2. Marketing Environment & Promotional Strategies
- 4.3. Role of Export Promotion Organizations, Trade fairs and Exhibitions
- 4.4. International Marketing Communication: Major Decisions, Communication Mix, Problems in International Marketing Communication
- 4.5. International Personal selling, Sales promotion and public relations.

## **5. International Distribution**

**(8)**

- 5.1. Distribution Channels: Policy, issues, Functions & types of channels;
- 5.2. International Channel conflict & Channel Decision
- 5.3. Functional Excellence in Distribution Planning
- 5.4. International logistics decisions & Management, Developing logistic Strategy

## **6. Export Management**

**(8)**

- 6.1. Managing Export Decisions
- 6.2. Export Contract: INCO Terms
- 6.3. Export procedure & Documentation, Certificate of Origin, Modes of payments- LOC, Forfeiting agents, Cross Border Factoring, Bankers Acceptance (BA), Counter Trade
- 6.4. EXIM policy of India

### **REFERENCE BOOKS**

- 1. Global Marketing Management by Keegan - Pearson
- 2. International Marketing: Text & Cases – Francis Cherunilam – Himalaya
- 3. International Marketing – Cateora, Graham, Salwan – Tata McGraw Hill
- 4. International Marketing: Text And Cases - Justin Paul & Ramneek Kapoor – Tata McGraw Hill
- 5. International Marketing – Rajgopal – Vikas Publications
- 6. International Marketing – Rajendra Nargundkar – Excel Books
- 7. International Marketing – R Shrinivasan – Prantice Hall
- 8. Global Marketing: Foreign Entry, Local Marketing & Global Mgmt. – Johansson - Tata McGraw Hill
- 9. International Marketing & Export Management By Albaum - Pearson
- 10. International Marketing - Jain S.C. - CBS Publications, New Delhi
- 11. International Financial Management- V.K. Bhalla, Anmol Publications
- 12. International Financial Management- P.G. Apte, Tata McGrahill

# Specialization – C – Human Resource Management



**North Maharashtra University, Jalgaon**

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: III**

## **304 C - Industrial Relations & Labour Welfare**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

### **Objectives:**

- To Study various Industrial Relations practices in the organisation
- To understand Grievance handling & collective bargaining.
- To study various aspects of labour welfare.

### **1. Introduction to Industrial Relations**

**(10)**

#### **1.1. Industrial Relations –**

- 1.1.1. Concept, Scope & Objectives of IR, Approaches to IR
- 1.1.2. Conditions for Congenial IR & Functional Requirement for Sound IR Policy

#### **1.2. Employee Discipline –**

- 1.2.1. Concept, Objectives, Need,
- 1.2.2. Red Hot Stove Rule,
- 1.2.3. Principles & Approaches to Discipline

#### **1.3. Trade Unionism-**

- 1.3.1. Types, role & importance
- 1.3.2. Growth & Need of & Managerial Trade Unions

### **2. Industrial Disputes-**

**(12)**

#### **2.1. Industrial Disputes**

- 2.1.1. Concept, Definition,
- 2.1.2. Causes & Consequences of Industrial Disputes,
- 2.1.3. Types of Industrial Disputes - Strikes & Lockouts,
- 2.1.4. Prevention of Industrial Disputes-

#### **2.2. Industrial Dispute Settlement Machinery-**

##### **2.2.1. Mediation –**

- 2.2.1.1. Meaning, Importance,
- 2.2.1.2. Types and Essentials of Mediation

##### **2.2.2. Conciliation-**

- 2.2.2.1. Meaning, Steps for Conciliation Procedure,
- 2.2.2.2. Role and Qualities of Conciliator,
- 2.2.2.3. Essentials for Effective Conciliation

##### **2.2.3. Arbitration –**

- 2.2.3.1. Concept, Advantages, Disadvantages,
- 2.2.3.2. Essentials of arbitration

##### **2.2.4. Adjudication –**

- 2.2.4.1. Concept, Meaning,
- 2.2.4.2. Three Tier System of Adjudication – Labor Courts, Industrial Tribunal & National Tribunal

### **3. Grievance Procedure & Collective Bargaining**

**(08)**

#### **3.1. Grievance Procedure-**

- 3.1.1. Meaning, Nature & Causes,

- 3.1.2. Steps in Grievance Procedure
- 3.2. **Collective Bargaining –**
  - 3.2.1. Concept, Objectives, Importance & Need,
  - 3.2.2. Process of Collective Bargaining,
  - 3.2.3. Bargaining Strategies
  - 3.2.4. Collective Bargaining in India & Qualities of Good Negotiator,
- 4. **Introduction to labour welfare** (06)
  - 4.1. Meaning, Importance & Objectives of Labour Welfare.
  - 4.2. Types of Labour Welfare Services,
  - 4.3. Need and Scope of Labour Welfare in India,
  - 4.4. Labour Welfare Officer- Concept, Qualities and Role
- 5. **Workers' Participation in Management (WPM) & Employee Empowerment-** (08)
  - 5.1. **Workers' Participation in Management (WPM) –**
    - 5.1.1. Definition, Meaning and Objectives,
    - 5.1.2. Causes of Failure and Forms of WPM,
    - 5.1.3. Essentials for Effective WPM
  - 5.2. **Employee Empowerment—**
    - 5.2.1. Concept, Importance and Need of Employee Empowerment,
    - 5.2.2. Characteristics of Empowered Organization,
    - 5.2.3. Empowerment Process
  - 5.3. **Quality Circles-**
    - 5.3.1. Concept, Objectives and Benefits of Quality Circles,
    - 5.3.2. Organization Structure of Quality Circles
- 6. **India & International Labour Organization** (04)
  - 6.1. Objectives, Structure of ILO
  - 6.2. Impact of ILO on India Labour
  - 6.3. Recommendations of ILO

#### REFERENCE BOOKS:

1. Industrial Relations Trade Union & Labour Legislations by PRN Sinha & Shekher – Pearson
2. Dynamics of Industrial Relations by C. B. Mamoria; Himalaya Publishing House
3. Essentials of HRM & IR by P Subba Rao – Himalaya
4. Industrial Relations by Arun Monappa – Tata McGraw Hill
5. Labour Welfare Trade Union & Industrial Relations by Puneekar, Deodhar & Sankaran - Himalaya Publications
6. Human Resource Management by K. Ashwathappa – Tata McGraw Hill
7. Industrial Relations in India 2/e – Sen - Macmillan
8. Human Resource Management by S. S. Khanka; S. Chand & Co. Ltd. New Delhi.
9. Industrial Relations of Developing Economy by Bishwanath Ghosh- Himalaya



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### 305-C: HUMAN CAPITAL MANAGEMENT AND DEVELOPMENT

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To understand the concept of Human Capital Management
- To study various testing concepts in selection process

#### 1. Human Capital Management (HCM)-

(08)

- 1.1. Concept of Human Capital & Its Origin
- 1.2. Definition, Aims, Rationale of HCM
- 1.3. HCM Vs HRM
- 1.4. Role of HR in HCM
- 1.5. Human Capital Advantage & Resource based Strategy
- 1.6. Applications of HCM- HCM & Talent Management, HCM & Strategic HRM, HCM & Knowledge Management

#### 2. Human Resource Development (HRD)-

(05)

- 2.1. Concept, Objectives & Scope of HRD
- 2.2. Need, Importance of HRD
- 2.3. HRD Framework

#### 3. Basics of Job Analysis-

(05)

- 3.1. Concept, Importance and Steps
- 3.2. Collecting Job Analysis Information
- 3.3. How to write Job Description- Job Identification, Job summary & Relation
- 3.4. How to write Job Specification for Trained & Untrained Persons, Its Methods

#### 4. Employee Testing & Selection-

(12)

- 4.1. Importance of Careful Selection of Employees
- 4.2. Testing Concepts-
  - 4.2.1. Reliability and Validity-Way to Validate Test
  - 4.2.2. Types of Tests- Tests of Cognitive Abilities, Tests of Physical Abilities, Personality and Interest Tests, Some other Tests-Honesty (Polygraph) Test, Graphology, Substance Abuse Screening, Test of Intelligence-IQ, Spiritual & Emotional Quotient, , Multiple Intelligences Test
- 4.3. Interviews-
  - 4.3.1. Concept & Importance of Interviews
  - 4.3.2. Types of Interviews- Structured Vs Unstructured, Exploratory, Directive, Telephonic, Video Conferencing, Stress Interview, Panel Interview, Peer Interview, Group Interview, Behavioral Event Interview (BEI), Situational Interviews
  - 4.3.3. Designing of Effective Process
  - 4.3.4. Best Practices for Effective Interview
  - 4.3.5. Pitfalls of Interview Process
  - 4.3.6. How to measure effectiveness of Selection

#### 5. Developing Effectiveness of HR-

(12)

- 5.1. Potential Appraisal- Concept, objectives and Importance
- 5.2. Training- Investments in Training, Aspects of Training
- 5.3. Training Process-
  - 5.3.1. Need Assessment- Organizational Analysis, Task Analysis, Personal Analysis

5.3.2.Designing Training Program- Instructional Objectives, Trainee Readiness & Motivation, Principles of Learning & Teaching, Areas & Principles of Training, Characteristics of Good Instructor

5.3.3.Implementing Training Program- Methods

5.3.4.Evaluating Training Program- Essential Ingredients for Successful Evaluation, Evaluation Techniques- General Observations, HR Factors, Controlled Experimentation, Performance Tests, Cost Value Relationship, Training Metrics, Kirkpatrick Model

5.3.5.Benchmarking of HR Training

**6. High potential Employees & Competency Management-**

**(06)**

6.1. High Potential Employees-

6.1.1.-Definition, Concept, Categories & Characteristics

6.1.2.-Identification of High Potential Employees

6.1.3.-Retention of High Potential Employees-Motivators, Retention Measures

6.2. Competency Management-

6.2.1. Concept & Types

6.2.2. Competency Framework- Competency Dictionary, Competency Band Matrix, Job/Role Competency Profile, Competency Assessment Tool

**\* Note** - 1. The Practical Aspects of concepts in syllabus should also be discussed with students.

2. The formation of HR Policies for any small organization can be carried out from the students as an assignment work

**Reference Books:**

1. Human Capital Management-Angela Baron & Michael Armstrong, Kogan Page Publishers, 2007
2. Strategic Human capital Management-John Ingham, Butterworth- Heinemann, 2007
3. Human Resource Management, 2/E Gilmore & Williams- Oxford University Press
4. Human Resource Management-Sharon Pande & Swapnalekha Basak, Pearson
5. Essentials of Human Resource Management & Industrial Relations- P Subbaro, Himalya Publications, 2012
6. Managing Human Resource-Bohlander, Snell, Thomson-South Western, 2004
7. Human Resource Management- Gary Dessler & Biju Varkkey, Pearson Prentice Hall, 2009
8. Human Resource Management by Gary Dessler – Pearson
9. Human Resource Management by Snell Bohlander - Cengage
10. Cross Cultural Management by Madhavan Oxford University Press
11. Human Resource Management by Mondy - Pearson





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### 306-C: Strategic Human Resource Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To study the integration of Strategy alongwith Human Resource Management
- To understand Employee engagement.
- To study HR as Strategic Value addition Function
- To study role of IT in Strategic HRM

#### 1. Strategic Human Resource Management (10)

- 1.1. Meaning, Definition of SHRM
- 1.2. Strategic HR Vs Traditional HR
- 1.3. Need & Importance of SHRM
- 1.4. Steps in SHRM
- 1.5. HR Strategies
  - 1.5.1. Overall HR Strategy
  - 1.5.2. Specific HR Strategy
- 1.6. Barriers to Strategic HR
- 1.7. Outsourcing & Revamping HR
- 1.8. Role of HR during
  - 1.8.1. Organizational growth
  - 1.8.2. Retrenchment
  - 1.8.3. Organizational Turnaround

#### 2. Strategic Job Analysis, Job design & Redesigning of Work System (12)

- 2.1. Concept, Process & Method & uses of Job Analysis
- 2.2. Concept of - Job Description, Job Specification & Job Design
- 2.3. Modern Management Techniques
- 2.4. Designing work systems
- 2.5. Redesigning of work Systems
- 2.6. Organizational Design Process & Emerging issues in Organizational Design
- 2.7. Factors affecting Design Process

#### 3. Employee Engagement & Goal Setting (08)

- 3.1. Employee Engagement
  - 3.1.1. Meaning & Importance
  - 3.1.2. Factors influencing engagement
  - 3.1.3. Strategies for enhancing engagement
- 3.2. Goal Setting
  - 3.2.1. Introduction ,
  - 3.2.2. Requirements of Goal setting procedure
  - 3.2.3. Relationship between Vision, Mission and Goal setting
  - 3.2.4. Approaches to Goal setting
  - 3.2.5. Process of Goal setting
  - 3.2.6. Characteristics of Goal setting ( SMART)

#### 4. Global Competitiveness & Strategic HR (08)

- 4.1. Strategic Procurement: Strategic Recruitment, Strategic Selection

- 4.2. Strategic Challenges
  - 4.2.1. Managing Talent Surplus
  - 4.2.2. Managing Talent Shortage
- 4.3. Technology Challenges
- 4.4. Strategic Dimensions of Performance Appraisal
- 4.5. A Shift from Appraisal to Performance Management
- 4.6. Economic Value added
- 4.7. Organisational Appraisal- Balanced Scorecard (BSC)
- 5. Strategic HR & Information Technology (06)**
  - 5.1. Technologies Affecting HRM
  - 5.2. Human Resource Innovations
  - 5.3. Conventional HRM to Web Based HRM
  - 5.4. Application Software for HR Practices
- 6. Developing HR as Strategic Value addition Function (06)**
  - 6.1. Gaining competitive Advantage through HR
  - 6.2. HR as a Strategic Partner
  - 6.3. The VRIO Framework
  - 6.4. The changing role of HR
  - 6.5. Future Challenges of HR
  - 6.6. Economic Value Added

#### REFERENCE BOOKS:

1. Strategic Human Resource Management by Jeffrey Mello.- Pearson
2. Strategic Human Resource Management by Truss Et Al Oxford University Press
3. Strategic Human Resource Management by Rajeesh Viswanathan – Himalaya
4. Strategic Human Resource Management by Armstrong – Kogan Page
5. Strategic Human Resource Management by Rajib Dhar – Excel Books
6. Strategic Human Resource Management by Greer - Pearson
7. Human Resource Strategy by Dreher & Dougherty – Tata Mcgraw Hill
8. Human Resource Management: A South Asian Perspective – Mathis, Jackson & Tripathy - Cengage
9. Managing Human Resources By Fisher- Cengage Learning



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

### 307C – Labour Laws

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To study various labour laws applicable to Indian industries
- To understand various benefits available under labour laws

- |  |             |
|--|-------------|
| <b>1. Factories Act, 1948</b>  | <b>(06)</b> |
| 1.1. Object & Definitions  |             |
| 1.2. Health Provisions   |             |
| 1.3. Safety Provisions   |             |
| 1.4. Welfare Provisions  |             |
| 1.5. Obligations of Worker & Occupier  |             |
| 1.6. Offences & Penalties  |             |
| <b>2. Minimum wages Act, 1948</b>  | <b>(04)</b> |
| 2.1. Object, Applicability & definitions   |             |
| 2.2. fixation of minimum rate of wages   |             |
| 2.3. Procedure for fixing and revising minimum wage,   |             |
| 2.4. Offences & Penalties  |             |
| <b>3. Payment of wages Act, 1936</b>   | <b>(04)</b> |
| 3.1. Object, Applicability & definitions   |             |
| 3.2. Time of payment of Wages.   |             |
| 3.3. Deductions from wages.  |             |
| 3.4. Obligations of Employers & Employees.   |             |
| <b>4. Payment of Bonus Act 1965</b>  | <b>(06)</b> |
| 4.1. Object, Applicability & definitions   |             |
| 4.2. Calculation of Bonus,   |             |
| 4.3. Time limit for payment  |             |
| 4.4. Employees entitled to Bonus   |             |
| 4.5. Payment of min/max Bonus  |             |
| 4.6. Calculation of allocable surplus,   |             |
| 4.7. Set-on and set-off of allocable surplus   |             |
| <b>5. Workmen's Compensation Act, 1923.</b>  | <b>(04)</b> |
| 5.1. Object, Scope & definitions   |             |
| 5.2. Amount of Compensation  |             |
| 5.3. Obligations of Workmen & Employer   |             |
| 5.4. Distribution of Compensation  |             |
| 5.5. Occupational diseases   |             |
| 5.6. Penalties   |             |
| <b>6. Equal Remuneration act, 1976</b>   | <b>(06)</b> |
| 6.1. Object & definitions  |             |
| 6.2. Duty of employer to pay equal remuneration to men and women workers for same work of a similar nature |             |
| 6.3. No discrimination to be made while recruiting man & women workers                                     |             |
| 6.4. Advisory committee  |             |
| 6.5. Authorities for hearing and deciding claims & Complaints  |             |
| 6.6. Duty of employers to maintain registers   |             |
| 6.7. Power of inspectors   |             |

- 7. Employees state insurance Act, 1948** (03)
- 7.1. Object, definitions
  - 7.2. Obligations of Employers & Employees.
  - 7.3. Contribution
  - 7.4. Benefits to employees
- 8. The employee Provident fund & Miscellaneous provisions Act, 1952** (05)
- 8.1. Object, Applicability & definitions
  - 8.2. Employees' Provident Funds Scheme
  - 8.3. Employees' Family Pension Scheme,
  - 8.4. Employees' Deposit-linked Insurance Scheme,
  - 8.5. Determination of moneys due from employers,
  - 8.6. Special provisions relating to existing provident funds
  - 8.7. Transfer of accounts
  - 8.8. Obligations & Rights of employer & employees.
- 9. Payment of Gratuity act, 1972** (05)
- 9.1. Object & Definitions
  - 9.2. Payment of gratuity: Amount of Gratuity
  - 9.3. Nominations
  - 9.4. Compulsory Insurance
  - 9.5. Forfeiture, exemption
  - 9.6. Inspectors, Power of inspectors
  - 9.7. Obligations & Rights of employer & employees.
- 10. Maternity Benefit Act, 1961** (05)
- 10.1. Object, Applicability & definitions
  - 10.2. Right to payment of maternity benefit
  - 10.3. Forfeiture of maternity benefit
  - 10.4. Payment of maternity benefit in case of death of a woman
  - 10.5. Payment of medical bonus
  - 10.6. Leave for miscarriage
  - 10.7. Leave for illness arising out of pregnancy, delivery, premature birth of child, or miscarriage
  - 10.8. Nursing breaks

**REFERENCE BOOKS:**

1. Taxmann's Labour Laws – Taxmann publications
2. Industrial and Labour Laws – Saravanel – Galgotia Publications
3. Elements of Merchantile Law by N.D.Kapoor – Sultan Chand & Sons
4. Industrial Relations, Trade Unions & Labour Legislation by PRN Sinha, InduSinha, SeemaShekhar – Pearson
5. Industrial Jurisprudence and Labour Legislation by A.M.Sharma – Himalaya Publications
6. Labour Laws for managers by B.D.Singh – Excel Books
7. Labour Laws – Bare Acts

# Specialization – D – Operations & Materials Management



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 304 D – World Class Manufacturing & Process Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

#### Objective:

- 1) Manufacturing Management (04)**
  - a) Manufacturing activity scheduling
  - b) Manufacturing resource planning
  - c) Current Trends in Manufacturing in India
- 2) World Class Manufacturing (08)**
  - a) Characteristic of Re-engineered process.
  - b) Managerial responsibility in globalization :
  - c) Software in use, Problems of implementation on the system.
  - d) Optimized Production Technology (OPT),
  - e) Automation in Design and manufacturing, Role of Robotics etc.
  - f) State of International Business – Managerial Attitude and Challenges.
  - g) Environment Pollution – Factors, Effect and Control.
- 3) Innovative Manufacturing System (10)**
  - a) Lean Manufacturing: Concept, Tools & Techniques, Advantages And Disadvantages
  - b) Flexible Manufacturing System: Different production system of FMS & its Configuration
  - c) Group Technology: Concept & applications of GT
  - d) Cellular Manufacturing System: Concept
  - e) Agile Manufacturing: Concept
  - f) Computer Integrated Manufacturing (CIM) : Concept
- 4) Process Management (10)**
  - a) Processes: Meaning, Types & Scope
  - b) Process planning and selection
  - c) Process design: Scope, Factors affecting and operation design
  - d) Major process decisions
  - e) Process analysis and process flow charts
  - f) Process Improvement: Methods – Kaizen Umbrella, Process Management tools
  - g) Process Management tools & Techniques: Design of Experiments (DOE), Taguchi Method, Quality Function Deployment (QFD), Single Minute Exchange of Die (SMED), Visual Control (VC)
  - h) Product Design Concepts: Design for manufacture (DFM), Design for Assembly (DFA), Design for Operations (DFO)
- 5) Maintenance Management (06)**
  - a) Maintenance Function and Strategies
  - b) Maintenance economics
  - c) Spare Parts Management: Types of Spares & Inventory Planning for Spare Parts
  - d) Measurement of Maintenance performance:
    - i) Total Productive Maintenance
    - ii) Concept of Reliability, Reliability Improvement
    - iii) Concept of Maintainability, Maintainability Improvement.

**6) Management of Industrial Safety**

**(06)**

- a) Safety Analysis
- b) Safety programs and organization
- c) Safety and productivity
- d) Causes, problems and sources of industrial accidents
- e) Theory of accident occurrences
- f) Accident prevention and control
- g) Investigation and Analysis of accident
- h) Duties of plant supervisor and safety inspector
- i) Welfare and safety

**7) Technology Transfer**

**(04)**

- a) Definition and Classifications
- b) Channels of technology Flow
- c) International Technology Transfer
- d) Intra-firm Technology Transfer

**REFERENCE BOOKS:**

1. Operations Management by B Mahadevan – Pearson
2. Production and Operations Management by N.G. Nair – Tata McGraw Hill
3. Production & Operations Management by Upendra Kacharu – Excel Books
4. Global Management Solutions-Demystified – Seth, Rastogi – Thomson Press
5. Total Quality Management: Text & Cases – K Shridhara Bhat - Himalaya
6. Production and Materials Management by K. Shridhar Bhat –Himalaya
7. Management of Technology by Tarek Khalil - TMH
8. Production and Operation Management by Kanishka Bedi – Oxford
9. Operation management by Ray wild – Thomson
10. Production and Operation Management by Chunnawala Patel - Himalaya
11. Materials and Purchasing Management by S.A. Chunawala – Himalaya



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

## 305 D – MANAGEMENT OF TECHNOLOGY

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- 1. Introduction to Technology Management: (06)**
  - a) Concept and meaning of technology,
  - b) Evolution and growth of technology,
  - c) role and significance of management of technology,
  - d) Impact of technology on society and business,
  - e) Forms of technology: process technology and product technology.
- 2. Competitive advantages through new technologies: (06)**
  - a) Product development – from scientific breakthrough to marketable product –
  - b) Role of Government in Technology Development.
  - c) Linkage between technology, development and competition,
  - d) Managing research and development (R&D),
  - e) Managing Intellectual Property.
- 2) Technological Forecasting: (04)**
  - a) Exploratory: Intuitive, Extrapolation, Growth Curves,
  - b) Technology Monitoring, Normative: Relevance Tree, Morphological Analysis, Mission Flow Diagram
- 3) Technology Assessment: (06)**
  - a) Technology Choice, Technological Leadership and Follower ship,
  - b) Technology Acquisition. Meaning of Innovation and creativity,
  - c) innovation management
- 4) Technology strategy: (04)**
  - a) concept, types, key principles, framework for formulating technology strategy,
  - b) Technology forecasting: techniques and application.
- 5) Technology diffusion and absorption: (06)**
  - a) Rate of Diffusion; Innovation Time and Innovation Cost, Speed of Diffusion.
  - b) Project management in adoption and implementation of new technologies.
- 6) Technology Transfer Management: (06)**
  - a) Technology transfer-process;
  - b) outsourcing strategic issues; joint ventures,
  - c) Technology sourcing.
- 7) Human Aspects in Technology Management: (05)**
  - a) Integration of People and Technology,
  - b) Organizational and Psychological Factors,
  - c) Organizational Structure.
- 8) Social Issues in Technology Management: (05)**
  - a) Technological Change and Industrial Relations,
  - b) Technology Assessment and Environmental Impact Analysis.

## 305 D – MANAGEMENT OF TECHNOLOGY

### REFERENCE BOOKS:

- 1) Management of Technology - Tarek Khalli - McGraw-Hill.
- 2) Managing Technology and Innovation for Competitive Advantage - V K Narayanan - Pearson Education Asia
- 3) Strategic Technology Management - Betz. F. - McGraw-Hill.
- 4) Strategic Management of Technological Innovation - Schilling - McGraw-Hill, 2nd ed.
- 5) Strategic Management of Technology & Innovation - Burgelman, R.A., M.A. Madique, and S.C. Wheelwright -. Irwin.
- 6) Handbook Of Technology Management - Gaynor - Mcgraw Hill
- 7) Managing New Technology Development - Souder, W.C. and C.M. Crawford - McGraw-Hill.
- 8) Managing Technological Innovation - Twiss, B. -. Pitman.
- 9) Bringing New technology To Market - Kathleen R Allen - Prentice Hall India
- 10) Management Of New Technologies For Global Competitiveness — Christian N Madu - Jaico Publishing House





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

## 306 D –Logistic & Supply Chain Management

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- 
- |   |             |
|---|-------------|
| <b>1) Supply Chain Management</b>   | <b>(15)</b> |
| <ul style="list-style-type: none"><li>a) Concept, Supply Chain Linkage</li><li>b) Mapping the supply chain</li><li>c) E-Business solution for supply chain</li><li>d) Supply chain Flows</li><li>e) Cycle View of Supply Chain</li><li>f) Process cycle time</li><li>g) Supply Chain Relationships: Supplier-Buyer relationship</li><li>h) Functional Strategies that impact SCM performance</li><li>i) Parameters for SCM Design</li><li>j) Information Functionality of Supply Chain</li><li>k) Principles of Supply chain Information</li><li>l) Information System activity</li><li>m) Technology Used in SCM</li></ul> |             |
| <b>2) Logistic Management</b>   | <b>(06)</b> |
| <ul style="list-style-type: none"><li>a) Definition, Objective Functions &amp; Scope</li><li>b) Customer value chain</li><li>c) Logistical competence, competitiveness and competitive advances</li><li>d) Logistic for business excellence</li><li>e) Logistic solution</li><li>f) Role of Logistic in Supply Chain</li></ul>  |             |
| <b>3) Customer Service And Demand Management</b>  | <b>(06)</b> |
| <ul style="list-style-type: none"><li>a) Relationship between customer and demand management</li><li>b) Customer service for competitiveness</li><li>c) Customer service phase</li><li>d) Service attributes</li><li>e) Customer service strategy</li><li>f) Value added logistical service</li></ul>   |             |
| <b>4) Logistic Planning And Strategy</b>  | <b>(06)</b> |
| <ul style="list-style-type: none"><li>a) Hierarchy of planning</li><li>b) Relationship between logistic strategy and corporate strategy</li><li>c) The strategic logistic plan and audit</li><li>d) Logistic mission and objectives</li><li>e) Logistic Strategies &amp; Formulation</li><li>f) Designing Logistical system</li></ul>   |             |
| <b>5) Logistic Mix</b>  | <b>(15)</b> |
| <ul style="list-style-type: none"><li>a) Warehousing<ul style="list-style-type: none"><li>i) Concept &amp; Functions</li><li>ii) Warehouse Options</li></ul></li></ul>  |             |

- iii) Warehouse Site Selection & Layout Design
  - iv) Warehouse Costing
  - v) Warehousing Strategies
  - vi) Warehousing in India
- b) Material Handling Systems
  - i) Role of Material Handling
  - ii) Material Handling Guidelines
- c) Material Storage Systems
  - i) Concept
  - ii) Storage Principles
  - iii) Benefits of Storage Design
  - iv) Storage Methods
- d) Transportation
  - i) Transportation Infrastructure
  - ii) Freight Management
  - iii) Factors influencing Freight cost
  - iv) Transportation Network
  - v) Route Planning
  - vi) Containerisation
- e) Logistical Packaging
  - i) Consumer Vs Logistic Packaging
  - ii) Packaging as Unitisation
  - iii) Design Considerations
  - iv) Packaging Materials
  - v) Returnable Logistic Packaging
  - vi) Packaging Cost
- f) Logistic Information system (LIS)
  - i) Logistic Information Needs
  - ii) Designing Logistic Information system
  - iii) Desired Characteristic of LIS

#### REFERENCE BOOKS:

1. Logistic Management by V.V.Sople- Pearson
2. Logistic & Supply chain management by K.Shridhara Bhat – Himalaya
3. Exploring the supply chain by Upendra kachru – Excel books
4. Supply Chain Logistics Management - Donald Bowersox , David Closs, M. Bixby Cooper – Tata McGraw Hill
5. Supply chain management by Janat Shah - Pearson
6. Logistical Management by Donald Bowersox , David Closs – Tata McGraw Hill
7. Supply chain management Concept and cases by Rahul V. Altekar - PHI



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

**SEMESTER: III**

### **307 D –Operations Research**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 50 hours**

- |   |             |
|---|-------------|
| <b>1) Introduction to Operations Research</b>                                       | <b>(06)</b> |
| a) Definitions, characteristic & Scope of Operations Research                       |             |
| b) Role of Operations Research in Managerial D/M                                    |             |
| c) Role of Computers in OR  |             |
| d) Limitations of OR  |             |
| <b>2) Transportation Model</b>  | <b>(06)</b> |
| a) Formulation of Transportation Problem.   |             |
| b) Methods of Finding Initial Solution.   |             |
| i) North-West corner rule   |             |
| ii) Row Minima Method   |             |
| iii) Column Minima Method   |             |
| iv) Least Cost Method   |             |
| v) Vogel's Approximation Method   |             |
| <b>3) Assignment Model</b>  | <b>(06)</b> |
| a) Comparison with Transportation Model   |             |
| b) Formulation of Assignment Model  |             |
| c) Hungarian or reduced Matrix Method   |             |
| <b>4) Theory of Games</b>   | <b>(10)</b> |
| a) Competitive Games  |             |
| b) Terminology  |             |
| c) Rules for games theory   |             |
| d) 2X2 Games, 2X3 Games, 3X3 Games  |             |
| <b>5) Sequencing Problem</b>  | <b>(06)</b> |
| a) Processing n jobs through two machines   |             |
| b) Processing n jobs through three machines   |             |
| c) Processing Two jobs through m machines   |             |
| <b>6) Replacement Decisions</b>   | <b>(06)</b> |
| a) Replacement of Item Deteriorates with time                                       |             |
| b) Replacement of Item Whose Maintenance cost Increase with Time and value of Money |             |
| <b>7) Investment Analysis</b>   | <b>(08)</b> |
| a) Break even analysis  |             |
| b) Payback Period Method  |             |
| c) Average Rate of Return Method  |             |
| d) Discounted Cash Flow Method  |             |

#### REFERENCE BOOKS:

1. Operations Research by V.K.Kapoor - Sultan Chand & Sons
2. Operations Research by D.S Heera & P.K.Gupta - S.Chand & Sons
3. Quantitative Techniques in Management by Vohra – Tata McGraw Hill Company
4. Operations Research by Natarajan - Pearson
5. Quantitative Techniques in Management by Jaishankar – Excel Books

# Specialization – E – International Business Management

## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

**Paper: 304 e – International Business**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours



### Objective:

- To develop a sound conceptual framework for understanding International business management
- To get in-depth knowledge on Theories of International Trade
- To be able to understand international trade strategies.

### 1. Introduction to International Business (IB) (06)

- 1.1. Concept of International Business
- 1.2. International Vs Domestic Business
- 1.3. Evolution, Development & Factors leading to Growth of IB
- 1.4. International Orientation
- 1.5. Globalization of Business Structure

### 2. Modes of International Business (06)

- 2.1. Determinants of Entry Mode
- 2.2. country-specific,
- 2.3. Industry-specific,
- 2.4. Firm-specific,
- 2.5. Project-specific
- 2.6. Entry Mode Selection & Choices
- 2.7. Trade Related
- 2.8. Contractual
- 2.9. Investment Based

### 3. Theories of International Trade (06)

- 3.1. Mercantilism
- 3.2. Theory of Absolute cost Advantage
- 3.3. Comparative cost Advantage Theory
- 3.4. Comparative cost Advantage Theory with Money
- 3.5. Country Similarity Theory
- 3.6. Global Strategic Rivalry Theory
- 3.7. Factor Proportions Theory
- 3.8. Product life Cycle Theory
- 3.9. Porter's National Competitive advantage Theory

### 4. International Business Environment (08)

- 4.1. Meaning of IB Environment, IB Environmental Factors
- 4.2. Socio-cultural & Ethical Environment
- 4.3. Economic Environment
- 4.4. Political Environment
- 4.5. Technological Environment

### 5. International Business Strategies (12)

- 5.1. Strategy: Role & Choices
- 5.2. Strategy formulation: Approaches, Spectrum, Levels
- 5.3. Planning, Organization & Control
- 5.4. International Marketing Strategy
- 5.5. International Investment & Financing Strategy
- 5.6. International HRM Strategies

## **6. Global Trade & Investment**

**(10)**

- 6.1. World Trade Organization
  - 6.1.1. Establishment of WTO
- 6.2. Organization Structure of WTO
- 6.3. Anti Dumping Measures
- 6.4. Dispute settlement Mechanism
- 6.5. TRIMS & TRIPS
- 6.6. WTO & India
- 6.7. Conflict & Negotiations in IB
- 6.8. Factors causing Conflict
- 6.9. Host Country Vs Transnational Corporations
- 6.10. International Negotiations
- 6.11. Role of International agencies in Conflict resolution
- 6.12. Foreign Direct Investment (FDI)

## **7. Concept, Reasons & Trends in FDI**

## **8. Costs, Benefits & Determinants in FDI**

## **9. Theories of FDI**

- 9.1. Industrial Organisation Theory
- 9.2. Product Cycle Theory
- 9.3. MacDougall-Kemp Hypothesis
- 9.4. Location-specific Theory

## **10. Foreign Direct Investment In India**

### **REFERENCE BOOKS:**

- 1) International Business: K. Ashwathappa -Tata McGraw Hill
- 2) International Business—Hill & Jain –Tata McGraw Hill
- 3) International Business: concept Env. & Strategies– Vyuptakesh Sharan –Pearson
- 4) International Business: concept Env. & Strategies –Sumati Varma –Ane Books
- 5) International Business: Text & Cases –P. Subba Rao –Himalaya
- 6) International Business—Shajahan-Macmillan
- 7) International Business –Shyam Shukla–Excel Books
- 8) International Business Environemt & Management: V.K. Bhalla –Anmol Publications
- 9) International Business -O.P.Agrawal -Himalaya
- 10) International Business—Justine Paul–Prantice Hall



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

#### Paper: 305 E-International Logistics and Supply Chain Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective of the Course:

- To develop a sound conceptual framework for understanding International Logistics Management
- To get in-depth knowledge on Supply Chain Management
- To be able to plan global supply chain.

#### 1. INTRODUCTION:

[8]

- 1.1. International Logistics and Supply chain management: meaning and objectives,
- 1.2. importance in global economy ,
- 1.3. Characteristics of global supply chains,:
- 1.4. Supply chain relationship to business performance, -Key tasks of logistics and supply chain managers,
- 1.5. Role of Government in controlling international trade and its impact on Logistics and supply chain.

#### 2. SUPPLY CHAIN STRATEGY:

[8]

- 2.1. Supply chain as a competitive advantage,
- 2.2. Global Supply chain strategy,
- 2.3. Structuring supply chain capabilities,
- 2.4. Business matching supply chain design with business strategy.

#### 3. TRANSPORTATION:

[8]

- 3.1. Strategic importance of transport in global logistics,
- 3.2. logistical objectives of transport,
- 3.3. International Ocean Transportation,
- 3.4. International Air Transportation, and International Land Transportation:
  - 3.4.1.types, characteristics and salient features,
  - 3.4.2.intermodal transportation in international operations,
  - 3.4.3.factors influencing mode and carrier selection decision,

#### 4. OUTSOURCING AND LOGISTICS SERVICE PROVIDERS

[8]

- 4.1. Intermediaries and Alliances in Global Logistics,
- 4.2. Meaning of 3 PL and 4 PL service providers,
- 4.3. role in Global logistics,
- 4.4. Types of services, considerations for hiring 3PL and 4 PL service providers.
- 4.5. Concept and need of outsourcing,
- 4.6. determinants for outsourcing decisions,
- 4.7. role of outsourcing in global supply chain management

#### 5. NETWORK DESIGN & INFORMATION TECHNOLOGY IN SUPPLY CHAIN

[8]

- 5.1. Decisions in Network design-strategic importance, location of plant, warehouse, Facilities; capacity and number of warehouses:
- 5.2. Factors influencing network design Decisions,
- 5.3. Role and Importance of IT in Supply Chain Management,
- 5.4. IT solutions for Supply Chain Management,
- 5.5. Supply Chain Information Technology in Practice.

#### 6. PLANNING GLOBAL SUPPLY CHAIN

[8]

- 6.1. Planning the global supply chain,
- 6.2. Network design for global supply chain management,

- 6.3. Risk management in the global context,
- 6.4. Measuring logistics cost and performance.
- 6.5. Benchmarking the supply chain,
- 6.6. Performance measurement and evaluation in global supply chains

#### REFERENCE BOOKS:

1. Douglas Long International Logistics: Global Supply Chain Management Springer- Verlag New York, LLC;2004
2. Logistics Management Ganpathi & Nandi Oxford University Press
3. Philippe-Pierre Dornier, Panos Kouvelis, Michel Fender Global Operations and Logistics: Text and Cases Wiley, John & Sons, Incorporated 1998
4. Alan Branch Global Supply Chain Management in International Logistics Routledge 2007
5. Kent N. Gourdin Global Logistics Management: A Competitive Advantage for the New Millennium Blackwell Publishing 2006
6. Sridhar R. Tayur (Editor), Michael J. Magazine (Editor), RAM Ganeshan (Editor)
7. Quantitative Models for Supply Chain Management Kluwer Academic Publishers 1998)



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

#### Paper: 306 E- Export Import Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective of the Course:

- To develop a sound conceptual framework for understanding Export and Import management.
- To get in-depth knowledge in various aspects of Exports and Imports
- To be able to understand procedures of Exports and Imports

#### 1. PRELIMINARIES FOR EXPORTS AND IMPORTS

(8)

- 1.1. Meaning of exports and imports
- 1.2. Effects of Exporting and Importing on Economy
- 1.3. Classifications of goods for exports
- 1.4. Strategy and preparations for exports
- 1.5. Methods of exporting
- 1.6. Export marketing organizations in India
- 1.7. Liberalizations of imports
- 1.8. Negative list for imports
- 1.9. Special schemes for imports

#### 2. EXPORT PROCEDURE

(8)

- 2.1. Registration stage
- 2.2. Pre-shipment stage, shipment stage and post shipment stage
- 2.3. Quality control and pre-shipment inspection
- 2.4. Sales tax exemption
- 2.5. Procedure for excise clearance
- 2.6. Shipping and customs formalities
- 2.7. Realization of export incentives
- 2.8. Procedure for realization of export proceeds

#### 3. EXPORT DOCUMENTATIONS

(10)

- 3.1. Aligned documentation systems (ADS)
- 3.2. Proforma Invoice, Commercial Invoice
- 3.3. Packaging list
- 3.4. Mate's receipt
- 3.5. Bill of lading
- 3.6. Certificate of origin
- 3.7. Shipping bill
- 3.8. Consular invoice
- 3.9. Bill of entry
- 3.10. Airway bill
- 3.11. GR Form

#### 4. IMPORT PLANNING

(6)

- 4.1. Methods of Import Procurement – Global Tendering, Limited Tendering
- 4.2. Negotiated Procurement
- 4.3. Long-term Contracting
- 4.4. Foreign Exchange Regulations Relating to Import
- 4.5. Import finance – Instruments of financing, Related Procedures, Customs Clearance



5. **EXIM POLICY** (8)
- 5.1. Objectives
  - 5.2. Facilities & Restrictions
  - 5.3. Significance of Exports & Imports to Nations Progress
  - 5.4. Export Potential of Services
  - 5.5. Export Potential of Select Commodities: Textiles, Agricultural Products, Marine Products, Floriculture, Readymade Garments, Engineering Goods, Leather Products, Gems & Jewelry Export Prospects in Various Countries.
6. **INSTITUTIONAL FRAMEWORK FOR FOREIGN TRADE** (8)
- 6.1. Special Economic Zone(SEZ)
  - 6.2. Indian institute of packaging (IIP)
  - 6.3. Export promotion council(EPC)
  - 6.4. Export Oriented Units (EOU)
  - 6.5. Commodity Boards(CBs)
  - 6.6. Export Credit and Guarantee Corporation (ECGC)
  - 6.7. Federation of Indian Export Organizations(FIEO)
  - 6.8. Indian Trade Promotion Organization (ITPO)
  - 6.9. Indian Institute of Foreign Trade(IIFT)

#### REFERENCE BOOKS:

- Export Import Procedures and Documentation, Khuspat S Jain, Himalaya Publishing House
- Export Management, S.H. Nagalkar & M.A. Barhate, Sai Jyoti Publication
- Asin Kumar: Export – Import Management, Excel Publications. New Delhi
- Cherian and Parab : Export Marketing, Himalaya Publishing Houses, Delhi.
- Government of India, Handbook of Procedures, Import and Export Promotion, New Delhi
- Rathod, Rathore and Jani : International Marketing, Himalaya Publishing House, Delhi



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

## Paper: 307 E – International Finance and Forex Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objective:

- To develop a sound conceptual framework for understanding International Financial management
- To get in-depth knowledge on Forex Management
- To be able to understand international Tax and Monetary system

- 1. Financial Management in a Global Context** (8)
  - 1.1. Nature, Scope, Dimension & Importance of International Finance
  - 1.2. Why Study International Finance
  - 1.3. Domestic Vs International Finance
  - 1.4. Recent changes in Global Financial markets
  - 1.5. Globalization & international Financial Management
  - 1.6. Emerging challenges & Responsibilities of finance Manager
- 2. Exchange Rate determination & Forecasting** (8)
  - 2.1. Introduction
  - 2.2. Exchange Rate and interest rate volatility- A recent Experience
  - 2.3. Nominal, Real and Effective Exchange Rates
  - 2.4. Some Fundamental Equivalence relationship
  - 2.5. Structural models of Exchange Rate Determination
  - 2.6. Exchange Rate Forecasting and Need for it.
  - 2.7. Exchange Rate of Rupee
- 3. International Monetary system** (8)
  - 3.1. Introduction
  - 3.2. Exchange rate regimes since 1973
  - 3.3. Bretton woods system of Exchange Rate
  - 3.4. International Monetary Fund (IMF)- Solution for financial crisis
  - 3.5. Economic and Monetary Union (EMU)
  - 3.6. Asian Development Bank
- 4. Balance of Payments** (8)
  - 4.1. What is Balance of Payments
  - 4.2. Function Principles and Accounting of Balance of Payments
  - 4.3. Components of Balance of Payments
  - 4.4. Meaning of "Deficit" and "Surplus" in Balance of Payments
  - 4.5. Adjustments and Approaches to Adjustments
  - 4.6. Why Balance of Payments Statistics are important
  - 4.7. India's Balance of Payments
- 5. Foreign Exchange Market** (8)
  - 5.1. Introduction
  - 5.2. Distinctive features
  - 5.3. Major Participants
  - 5.4. Spot Market
  - 5.5. Forward Markets
  - 5.6. Currency Futures

5.7. Currency Options

6. **International Taxation**

(8)

6.1. Bases of International tax System

6.2. Types of Taxes

6.3. Tax havens

6.4. Modes of Double Taxation Relief

6.5. International Tax Management Strategy

6.6. Indian Tax Scenario

7. **Field Work Suggested:-** Visit industries in your area which are involved in export business and Study the impact of the above factors on their business.

**REFERENCE BOOKS:**

- 1) International Finance Management by Thummuluri Siddaiah (IFM) - Pearson
- 2) International Finance Management by P. G. Apte - Tata McGraw Hill
- 3) International Finance Management by Vyuptakesh saran – Prentice Hall
- 4) International Finance by Maurice D. Levi - Routledge
- 5) International Finance Management by V.A. Avadhani – Himalaya Publishing House
- 6) International Finance Management by V.K Bhalla - Anmol Publications
- 7) International Finance Management by O.P.Agrawal and B K chaudhari- Himalaya Publishing House
- 8) International Finance Management by Cheol S. Eun & Bruce G Resnick , Tale McGraw Hill
- 9) International finance Marketing by N. R. Machiraju – Himalaya Publication
- 10) International Finance Management by K. Aswasthapa- Tata McGraw Hill

## SPECIALISATION - F -AGRI- BUSINESS MANAGEMENT

### **MBA Job opportunities:**

- Agricultural Manger
- Marketing Analyst
- Accounting manger
- Bioterrorism energy
- Alternative energy consultant
- Sales Manager
- Operation officer
- Credit Analyst
- Business Manger
- Manger-rural
- Manger-Business planning
- Commercial Executive –Crop care
- Investment Analyst –Food and Agriculture
- Sales Representatives
- Relationship Manager-Corporate and Retail Agriculture



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

### 304 F – Agro Business Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- The course aims at providing students an exposure to the management practices in Agro Business Management.
- To train students in handling different issues related to Agro Business management.

#### 1. Introduction to ABM

(06)

- 1.1 Meaning, definition, history, Importance and scope of agri-business
- 1.2 Changing dimension of agricultural business
- 1.3 Agri-business Management-distinctive features, nature and components
- 1.4 Five Years Plans and agri-business, characteristics of plan

#### 2. Advanced Food Processing

(14)

- 2.1. Present scenario, scope and opportunities
- 2.2. Infrastructural Development
- 2.3. Constraints and policy initiatives
- 2.4. Value addition and waste utilization
- 2.5. Food plant hygiene
- 2.6. industry wise segmentation
  - 2.6.1. Processed fruits & vegetables
  - 2.6.2. Milk and milk products
  - 2.6.3. Grain processing
  - 2.6.4. Meat & Poultry processing
  - 2.6.5. Fisheries, Marine Products
  - 2.6.6. Packed/Convenience foods
  - 2.6.7. Beverages
  - 2.6.8. Regulatory measures

#### 3. Agro-Processing Management

(16)

- 3.1. Role of agro-processing industries in the Indian economy
- 3.2. Status and potential of Indian agro-processing industries. Food grains, commercial Crops.
- 3.3. Policy environment of agro-processing industries-Development, management
- 3.4. structure and communication.
- 3.5. Work performance efficiency, public contact and public participation in agro-
- 3.6. Processing industries
  - 3.6.1. Decision making process and entrepreneurial efficiency
  - 3.6.2. Government policies relating to agro processing unit
  - 3.6.3. Interdependence of agro-processing industries, Problem of agro-processing units,
  - 3.6.4. Guideline for financing of agro-processing industries in India

#### 4. HRM in Agri Business Management

(06)

- 4.1. Development of Human Resource in Agricultural Training
- 4.2. Importance of Human Resource in Agricultural
- 4.3. H. R. M. development program for Agribusiness

#### 5. Emerging Trends in ABM

(06)

- 5.1. Agro Tourism
- 5.2. Organic Farming
- 5.3. Contract Farming
- 5.4. Herbal Farming

#### REFERENCE BOOKS:

1. Dhondyal, S.P. Farm Management: An Economics Analysis. Friends Publications, 90, Krishnapur, Meerut - 250002
2. Johl, S.S. and T.R. Kapur. Fundamentals of Farm Business Management. Kalyani Publishers, 11 Rajendra Nagar, Ludhiana – 114008,P-475
3. Kahlon, A.S. and Karan Singh. Economics and Farm Management in India: Theory and Practice. Allied Publishers Pvt. Ltd. 15 JN Heredia Marg, Ballard Estate Mumbai-400038
4. Singh I.J. Elements of Farm Management Economics. Affiliated East West Press, Pvt. Ltd. New Delhi.
5. Srivastava, U.K. Vathsala. Agro-processing Strategy for Acceleration and Exports Oxford University Press,YMCA, Library Building, Jai Singh Road, New Delhi – 110001.
6. Rajagopal. Organizing Rural Business Policy Planning and Management. Sage Publication, New Delhi.
7. Pandey, Mukesh and Deepak Tiwari. Rural and Agricultural Marketing International Book Distribution Co. New Delhi.
8. Diwase, Smita. Agri-Business Management. Everest Publishing House, Everest Lane, 536, Shaniwar Peth, Appa Balwant Chowk, Pune – 4110030
9. Siva Rama, K., K. Ramesh and M. Gangadhar. Human Resource Management in AGRICULTURE. Disscovery Publication, New Delhi.
10. Talwar, Prakash, Travel and Tourism Management, Gyan Books Pvt. Ltd., Main Ansari Road, Darya Ganj, New Delhi- 110 002
11. Bagri, S.C. Trends in Tourism Promotion 2003. International Books Distributors, 9/3, Rajpur Road,Dehradun-248 001 Uttarakhand (India)



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### 305 F –Management of Agro Industries

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- The present course aims at familiarizing the participants with the concepts, tools and techniques of Management of Agro based industries so as to enable them to develop analytical and conceptual skills and the ability to handle the various situations.

#### 1. Animal Production Management

(10)

- 1.1. Scope of livestock in Indian economy
- 1.2. Livestock census and trend of livestock production
- 1.3. Terminology used in livestock care, poultry care and management of livestock and poultry i.e. calf, heifer, milking animal, dry animal, pregnant animal, draft animal and breeding bull.
- 1.4. Stress management. Housing of different livestock and poultry.
- 1.5. Routine farm management. Preparation of animal for different purposes
- 1.6. Various breeds of cattle, sheep, goat, buffalo and poultry
- 1.7. Nutrient requirement of livestock and poultry
- 1.8. Maintenance of records on livestock dairy and poultry farms
- 1.9. Animal health cover, structure of udder and letting down of milk, clean and hygienic milk production.
- 1.10. Reproductive systems of male and female, estrus cycle, pregnancy and parturition. Systems of breeding, artificial insemination

#### 2. Value Addition in Animal Products

(10)

- 2.1. Present status of dairy, poultry, meat, wool and hide industries in WTO regime. Milk composition of different species
- 2.2. Production, packing, marketing of milk, meat and their products
- 2.3. Import, export of animal and poultry products
- 2.4. Price regulation in animal products. Factors influencing price
- 2.5. Trends in marketing and utilization of animal products
- 2.6. Importance of hides and bones, quality standards and storage Market standards and regulation of animal products

#### 3. Post – Harvest Technology of Horticultural Crops

(12)

- 3.1. Importance and present status of post-harvest technology in horticultural crops in
- 3.2. India and Maharashtra. Maturity, harvesting and handling in relation to extended
- 3.3. shelf-life and storage quality of fruits, vegetables and flowers.
- 3.4. Methods of pre-cooling, grading, packaging, storage and transport of fruits, vegetables and flowers.
- 3.5. Importance and scope of fruits and vegetable preservation.
- 3.6. Selection of site for fruit and vegetable preservation unit. Principles and methods of preservation.
- 3.7. Preparation of jams, jellies, marmalades, squashes, juices, syrups, preserves, crystallized fruits, chutney, pickle and ketchups
- 3.8. Spoilage of processed products, Post-harvest management of cut flowers. Control of
- 3.9. Post-harvest diseases of important fruits and vegetables.

#### 4. Bio-fertilizers and Mushroom Production

(08)

- 4.1. Bio-fertilizers: Introduction, importance and definition
- 4.2. Type of bio-fertilizers, Economics of bio-fertilizer production
- 4.3. Mushroom: Introduction, importance and types of mushrooms. Requirements for mushrooms cultivation: different tools, equipment's, substrates and chemicals required for
- 4.4. commercial cultivation of mushroom.

## 5. Technology in Agri-Business

(08)

- 5.1. Information Technology: meaning, role and importance in Agri business and Agriculture marketing.
- 5.2. Importance of Common Service Centers (CSC), Common issues of CSCs, Expert decision support system in Agriculture.
- 5.3. Information Technology for Agriculture Marketing.
- 5.4. Online market information, online market status in India.
- 5.5. Website on Agriculture marketing and export.
- 5.6. Role of private companies in online marketing – eChaupal, HLL Shakti, Quality control system.
- 5.7. Packaging, preservation and storage systems.

### REFERENCE BOOKS:

1. Banerjee, G.C. Text Book of Animal Husbandry. Oxford and IBM Publishers, New Delhi.
2. Sashry, N.S.R.C.K. Thomas and R.A. Singh. Farm Animal Management and Poultry Production. NSR, Vikas Publishing House Pvt. Ltd. Delhi.
3. Hand Book of Animal Husbandry, ICAR, New Delhi.
4. Singh, R.A. Poultry Production. Publishers, New Delhi.
5. Maske, O Norton. Commercial Chicken Production. Manuel AVI Publishers, INC West Port.
6. Ling. E.R. Text Book and Dairy Chemistry. Chapman Hall Ltd., London
7. Pantastico, E.R.,B. Post Harvest Technology, Handling, Utilization of Tropical and Sub-tropical Fruits and Vegetables. The AVI Publishing Co., West-Post, Connecticut, USA.
8. Salunke, D.K. and Desai, B.B.Past Harvest Biotechnology of Vegetables. II CRC Press, Boca Raton, Florida.
9. Varma, L.R. and V.K.Joshi. Post Harvest Technology of Fruits and Vegetables, Vol. II. Indus Publishing Company, New Delhi-110027
10. Motsara I.M.R., P. Bhattacharyya and Beena Srivastava, Biofertilizer Technology, Marketing and Usage- A source Book – cum glossary, FDCO, New Delhi.
11. Bahl, N. Handbook on Mushrooms. Oxford and IBH Pub. Co.Pvt, Ltd, New Delhi.
12. Kapoor, J.N. Mushroom Cultivation. Sterling Pub. Co., New Delhi-16.
13. Recciuti, M.Database vendors hawk wares on Internet. Info World, 17-2, Jan 9,10.
14. Shah Jignesh. Commodity Future- Benefits start flowing in The Hindu Survey of Indian Industry.





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### 306 F- Agri-Business Financial Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

To understand the perspective of financing agricultural operations and rural development in India and the current developments in this field.

#### 1. Introduction to Agriculture Economics

(08)

- 1.1. Meaning, -Need, importance, scope, importance of Agricultural in National Economy, Special characteristics of agriculture in Indian economy
- 1.2. Principles of agriculture finance, financial management for agribusiness.
- 1.3. Introduction-Accounting concepts, -Farm accounting, -Ratio analysis- Cash budget, Difference between Micro and Macro Economics, Basic terms and concepts used in economics.
- 1.4. Consumer behaviour and demand, law of diminishing marginal utility, consumer's surplus and application, Production and supply: Nature and factors of production, Short-run and long-run production function.

#### 2. Structure & Dynamics of Indian Agricultural

(10)

- 2.1. Place of Agricultural in National and International economy.
- 2.2. Pattern of agricultural holdings.
- 2.3. Agricultural productivity: Trends, causes and consequences of low productivity in India. Measuring efficiency in agricultural production, Economic efficiencies.
- 2.4. Theory of product choice; selection of optimal product combination.
- 2.5. Green revolution: Strategy in development of Indian agriculture.

#### 3. Indian Agricultural Policies

(16)

- 3.1. Meaning, types and importance of agricultural policies.
- 3.2. Evolution of agricultural policy.
- 3.3. Famine Commission Report.
- 3.4. Drought Prone area Programme (DPAP)
- 3.5. Nature and objectives of land reforms, Land Reform Policy.
- 3.6. National Insurance Policy.
- 3.7. Tenancy reforms, Crash Scheme for Rural Development.
- 3.8. National Rural Employment Assurance Programme & other recent Agricultural Development Programs.

#### 4. Financial Management in Agri-Business

(14)

- 4.1. Definition, Importance, Need of Agricultural Finance, Problems of agricultural credit in India, Requisites of good credit system.
- 4.2. Classification of credit and loan, Institutional agencies in agricultural credit, test of farm Credit proposal, tools of farm financial analysis, agricultural projects.
- 4.3. Traditional sources of finance for agriculture – issues, Significance of Co-op. Credit, Estimation of Agricultural Finance, Issues Theories of Agricultural Finance - Productive Vs. Consumption Credit Analysis, Kind Loans Vs. Cash Loans, Supervised Credit – Crop Loan – Cooperative credit, agricultural Finance in India.
- 4.4. Financial Institutions, Central banks - role of NABARD, RBI and developmental banks. Budgetary provision to agri-business, Agricultural subsidies Agricultural taxation, Agricultural finance-Problems and remedies.

### Reference Books:

1. Indian Economy- S.K. Misra, V.K. Puri, Himalaya Publishing House.
2. Student Guide to Income Tax- Singhania, Taxman Publication
3. Indian Economy since Independence- Uma Kapila, Academic Foundation.
4. Banking Theory & Practice- Dr. P.K. Shrivastava, Himalaya Publishing House.
5. Direct Taxes- Singhania, Taxman Publication.
6. Beattie BR & Taylor CR. 1985. The Economics of Production. John Wiley & Sons.
7. Doll JP & Frank O. 1978. Production Economics - Theory and Applications. John Wiley & Sons.
8. Gardner BL & Rausser GC. 2001. Handbook of Agricultural Economics. Vol. I Agricultural Production. Elsevier. Heady EO. Economics of Agricultural Production and Resource Use. Prentice-Hall.
9. Sankayan PL. 1983. Introduction to Farm Management. Tata Mc Graw Hill.
10. Agricultural Finance In India – Theories and Practices, VB Jugale, Atlantic Publishers
11. Financing Agricultural industries – Long term loans – Need and estimation – Working Capital loans – Issues in managing Finance For Micro Finance – SHGs Bank linkages ,Insurance – Crop Insurance, Financing Agro exports.
12. Agricultural finance in India – the role of NABARD - Rajkumar K. – New Century Publications(208)



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### 307 F- Agricultural marketing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To understand and appreciate the concept of marketing strategy formulation and implementation in agricultural marketing.

#### 1. Introduction to Agricultural Marketing

(06)

- 1.1. Scope, concepts & objectives, Role of agricultural marketing
- 1.2. Differences in Agricultural & consumer marketing
- 1.3. Problems of Agri. Marketing: Traditional agri. Marketing and present status, suggestion for improvements.
- 1.4. Present status & problem in various marketing function, role of government in agricultural marketing, Standardization and Grading.

#### 2. Retail Marketing

(14)

- 2.1. Concept, types of retailers, supermarkets, factory outlets, hypermarkets
- 2.2. Non store retailing. Retailer- marketing decisions. Direct selling, one to one selling, multiple selling, direct marketing and multiple marketing.
- 2.3. Major types of retail organization, co-operative chain stores, voluntary chain, retailers and consumer cooperatives.
- 2.4. Packaging and Market Segmentation in Retail Marketing.
- 2.5. Store Management: Retail location, merchandising, using price to stimulate market sale.
- 2.6. Branding Strategy: Manufacturer's brand, private label, brand for a sale.
- 2.7. Trends in retailing, retailing strategies.
- 2.8. Impact of retailing on economy and society.
- 2.9. Understanding Supply Chain, Decision phases in Supply Chain, Drivers of Supply Chain Performance.
- 2.10. The Role of Transportation in a Supply Chain, Factors affecting transportation Decisions, tailored Transportation, Managing Demand in Supply Chain.

#### 3. Promotion of Agri Products

(10)

- 3.1. Basic Concept of Promotion, Fundamental of Advertising.
- 3.2. Market Analysis for Agri Products segmentation & Targeting
- 3.3. Concept of Direct marketing, Sales Management, Personal Selling & Salesmanship, Sales Related Marketing Policies.
- 3.4. Developing and implementing customer Relationships Management: Key concepts in Customer relationships, Customer loyalty, key principles of relationship management, framework for building CRM strategy in agriculture marketing, CRM Implementation.

#### 4. Problems of Agricultural Marketing

(10)

- 4.1. Standardization: Basis of standards, aims of standardization, significance of standardization, demerits of standardization.
- 4.2. Grading: A marketing function, Importance of grading in agriculture grading in India.
- 4.3. Study of Market Intelligence and Market Integration: Meaning, definition, types of market integration, market function, AGMARK, price trends, market information. Co-operative agricultural marketing and public agencies involved in agricultural marketing viz. FCI, NAFED, STC, etc.; Functions of price mechanism, Nature and supply of agricultural products, marketable and marketed surplus, Types and reasons for price movements and their effect on agricultural price stabilization and price support policy.
- 4.4. Warehousing: State and Central Warehousing Corporations, objectives, functions, advantages, speculation, future trading and hedging. Hedging: Meaning, chief features of hedging, kinds, purpose, benefits and limitations of Hedging.

## 5. Trading of Agricultural Marketing

(08)

- 5.1. Importance of agricultural commodities in agricultural marketing.
- 5.2. Marketing of cereals rice, wheat and jawar etc.
- 5.3. Marketing of pulses-mango, tur, gram, urid etc.
- 5.4. Average cost of processing wheat into wheat flour, paddy to rice, whole pulses into split pulses, comparison of different rice milling methods
- 5.5. Marketing of mango, citrus and grapes etc.
- 5.6. Improving efficiency in commodity marketing, Role of co-operative and regulated market in commodity marketing.
- 5.7. Marketing of commercial crops with special reference to all functions and price analysis
- 5.8. Commercial commodity Trading- cotton, sugarcane, grapes, banana, mango, cut flowers – roses, gerbera, gladiolus, etc. vegetables – cauliflower, tomato, potato, onion, ladies finger.

### Reference Books:

1. Acharya, S.S. and N.L. Agrawal. -Agricultural Marketing in India.- Oxford and IBM Publishing Company Pvt. Ltd., 66 Janpath, New Delhi-110001.
2. Gupta, A.P. - Marketing of Agricultural Produce in India. - Vora and Company Publishers Pvt, Ltd., 3, Round Building, Kalbadevi, Mumbai-400002
3. Mamoria C.B. and R.L. Joshi.- Principles and Practice of Marketing in India. -Kitab Mahal, 15, Thorn hill Road, Allahabad.
4. Philip Kotler.- Marketing Management.- Pearson Education Publishers, New Delhi.
5. Panvar, J.S.Beyond - Consumer Marketing. - Response Books, Sage Publications, New Delhi.
6. Pandey, Mukesh and Deepak Tiwari.- Rural and Agricultural Marketing.- International Book Distribution Co., New Delhi.
7. Swapna Pradhan.- Retail Management – Tata McGraw Hill
8. Acharya, S.S. and N.L. Agrawal. - Agricultural Marketing in India. - Oxford and IBH Publishing Company Pvt., Ltd., 66, Janpath, New Delhi 110001
9. Mamoria, C.B. and R.L. Joshi. - Principles and practice of Marketing in India. - Kitab Mahal,15, Thorn hill Road, Allahabad.
10. Sunil Chopra, Peter Meindl,- Supply Chain Management.- Prentice Hall Publication
11. Panvar, J.S. Beyond - Consumer Marketing. - Response Books Sage Publications, New Delhi.
12. S. A. Chunawala,-Advertising, Sales and Promotion Management- Himalaya Publishing House
13. Customer relationship Management –A strategy approach to marketing by Kaushik Mukerjee , Prentice Hall India.

## Specialization – G - Information Technology & Systems Management

### Employability Opportunities for MBA in Information Technology & Systems Management Specialization Students

Students who have a desire to take control of technology transformations and gain a thorough understanding of business factors, IT networking, and specialized databases should consider pursuing this Specialization. This specialization can teach students the necessary skills to lead organizations in strategic decision-making regarding systems, database administration, telecommunications, and internet technologies.

MBA in Information Technology & Systems Management offers students the opportunity to study critical business and management skills, database management, and business application of these principles. Courses centre on IS principles, analysis, and design while also focusing on project and change management and networking communications. Most programs are tailored toward developing graduates that are leaders in the IS industry.

MBA students specializing in Information Technology & Systems Management can perform the following broad roles within an organization:

**1. Software Developers:**

This job name broadly describes those information technology professionals who design computer programs, applications and operating systems.

**2. Information security analyst:**

These analysts monitor and protect an organization's computer network and systems. According to the BLS, prior experience in a related field is usually a prerequisite, and companies prefer to hire those with an MBA.

**3. Management analyst:**

In this field, you'll provide feedback on improving an organization's efficiency and profitability.

**4. Systems Analyst:**

Systems analysts are responsible for the complete life-cycle of a new/modified IT system, from analysing existing arrangements to implementing systems and providing training, Addressing Information systems issues & developing Systems.

**5. IT Entrepreneur:**

Students are able to start their own Software Project Development firm.

**6. Information Technology Consultant :**

Information technology consultants provide analysis, advice and solutions for organizations that need to develop or improve their communication, data or software systems. They can also provide training for current employees. Job duties of IT business consultants vary by industry and specialty, but generally include performance assessments of a business' existing systems, strategic planning and implementation of the new system or process.

**7. IT Administrative Officer:**

This job includes investigating and diagnosing network problems, collecting IT usage stats, making recommendations for improving the company's IT systems and carrying out routine configuration and installation of IT solutions.

**8. Network Administrator**

To monitor computer networks for security threats or unauthorized users. To identify compromised machines and report on security measures taken to address threats. He also needs to analyze security risks and develop response procedures. Additional duties may include developing and testing software deployment tools, firewalls and intrusion detection systems.

**9. E-commerce Development :**

Expand their business over internet & become a part of E-Commerce, E-business & E-World.

**10. Database Manager:**

Database Manager works closely with the teams who need to use the data and manage a database administrator or a team of database administrators to help you with the work.

The Job involves modeling and designing databases. This means database Manager spend a lot of time working with users to find out what information they need to use, how frequently, what categories they need to split it by and what would make it easy to use. Once database is built, it needs to test thoroughly by database manager.

#### **11. Cyber Security Analyst**

Cyber Security analysts assess and mitigate risk while enhancing system security. They are typically responsible for identifying and patching any security weaknesses they may find and making recommendations for security hardware and software. The Analyst is often tasked with establishing information security policies and procedures, as well as reviewing violations to help prevent future occurrences. Cyber Security analysts have to regulate access to computer files, develop firewalls, perform risk assessments and test data processing systems to verify security measures.

the firm's policies and practices. Lead digital forensic and cybercrime response efforts. Liaise with client representatives.

#### **12. MIS Manager:**

An MIS manager who is employed by an organization plans computer-related work for organizations and develops and implements new technologies for more efficient business processes. ; directs the work of technology professionals; analyzes business technology needs; works with top management to discuss and determine technology projects needed for the business; hires, manages and developed technology staff; develops technology policies and procedures within the organization; oversees purchases and maintenance of office computer equipment and peripherals; acts as a technology consultant to business managers; performs gap analysis to determine required changes to core systems of the organization; creates test scenarios; conducts testing efforts; designs and documents combined solutions; and supervises and delegates work to other IT staff members.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### Paper: 304G: EMERGING TRENDS IN INFORMATION TECHNOLOGY

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To gain the basic knowledge of emerging trends in Information technology.
- To understand the changing scenario of business
- To understand the diversifying need of customer & make utilization of same for expanding the scope of business.

- 1. Overview of an E – Commerce** (8)
  - 1.1. Definition of ecommerce, Essential of E-commerce, Goals of E- Commerce
  - 1.2. Difference between E-Commerce and Traditional Commerce,
  - 1.3. Limitations and Advantages of E-Commerce, Scope of E-commerce
- 2. E-Business** (8)
  - 2.1. Definition-E-business,
  - 2.2. Characteristics of E-business,
  - 2.3. E-business Roles & their Challenges,
  - 2.4. E-business Requirements, Impact of E-business,
  - 2.5. Inhibitors of E-Business,
  - 2.6. Case study of Amazon.com & Flip cart
- 3. E-Banking** (8)
  - 3.1. Transactions: Inter Banking, Intra Banking, Electronic Payments, Payment
  - 3.1. Gateway, Securities in E-banking -SSL, Digital Signatures
  - 3.2. Services Provided: ATM, Smart Card, Micro payment, E-cash, Electronic Fund Transfer,
  - 3.3. ECS (Electronic Clearing System) e.g. Telephone, Electricity Bills
  - 3.4. Case study based on E-banking services provided by National & International Banks
- 4. E- Security** (8)
  - 4.1. Type of cyber-attacks, Intruders-hacking, cracking, freaking,
  - 4.2. Types of Securities, Security Tools,
  - 4.3. Network Security,
  - 4.4. Security Protection & Recovery,
  - 4.5. Cryptography and Digital Certificates.
- 5. E – Governance:** (8)
  - 5.1. Concept of E-Governance,
  - 5.2. E –Governance Models: (G2B, G2C, C2G, G2G),
  - 5.3. Challenges to E – Governance,
  - 5.4. Strategies and tactics for implementation of E – Governance,
  - 5.5. Case Study of E-Governance services like UAN etc.
- 6. E-CRM** (8)
  - 6.1. Definition e-CRM, Need of e-CRM,
  - 6.2. Framework of e-CRM, Features of e-CRM,
  - 6.3. Various stages in evolution of e-CRM,
  - 6.4. Six e's of e-CRM, CRM Vs E-CRM,
  - 6.5. Architecture of e-CRM,
  - 6.6. mobile applications
  - 6.7. Case study of Dell & HP for E-CRM

#### REFERENCE BOOKS:

1. Management Information System: Jawadekar- TMH
2. Management Information System: Laudon & Laudon
3. E – Commerce: Bhaskar - TMH

4. The Essential Guide to Knowledge management: Amrit Tiwana
5. Electronic Commerce: Elias M. Awad, Pearson Education
6. E – Commerce: Milind Oka
7. Fire Wall and Internet Security: William Cheswick, Stevens, Aviel Rubin
8. E-Governance Case Studies – Ashok Agarwal
9. E-commerce – C. S. V. Murthy
10. E-Business: Michael P. Papazoglou, Wiley-India Education
11. E-Commerce: David Whiteley





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### Paper: 305G: RDBMS USING ORACLE 8i

60 + 40 Pattern: External Marks 60 + Internal Marks (20 Marks Theory+ 20 Marks Practical=40 Marks) = Maximum Total Marks: 100

Required Lectures: 48 hours (30 Hours Theory + 18 Hours Practical)

#### Objectives:

- To understand the flow of data & how data is organized & manipulated.
- To provide basic understanding for retrieving data according to required format.
- To learn the accessibility of data for different users.

#### 1. Introduction (3)

- 1.1. Limitation of File Processing System
- 1.2. Advantages and limitations of RDBMS
- 1.3. Applications of RDBMS
- 1.4. Modelling Techniques
  - 1.4.1. Different Types of Database Models,
  - 1.4.2. Relational Model,
  - 1.4.3. Hierarchical Model,
  - 1.4.4. Network Model,
  - 1.4.5. E-R Model

#### 2. Normalization (3)

- 2.1. Normalization Introduction,
- 2.2. Advantages and disadvantages of Normalization;
- 2.3. 1NF-2NF-3NF rules with examples;
- 2.4. Anomalies,
- 2.5. Denormalization

#### 3. Data Types & SQL Functions- (4)

- 3.1. Numeric - abs(), ceil(), MOD, floor(), Round(), Trunc() etc
- 3.2. Aggregate - avg(), count(), min(), Max(), Sum() etc.
- 3.3. Character - char(), ltrim(), rtrim(), Upper(), LCase(), Concat() etc
- 3.4. Date - sysdate(), Curdate(), Hour(), LastDay(), Month() etc

#### 4. SQL Statements (12)

- 4.1. Type of SQL Statements, Structure of SQL statement(create, alter, delete, update, modify, Insert, select)
- 4.2. Constraints- Primary key, Unique key, Foreign Key, Alternate Key, NULL, NOT NULL, Check Constraint
- 4.3. Operator Used-IN, Between, AND, OR, IS NULL, NOT NULL, Join- Natural Join/Equal, Self Join, Left/Right/Both Join, Cross Join
- 4.4. Queries: Simple queries, Sub queries, Nested Queries,

#### 5. Views & Sequence (4)

- 5.1. Create View, Types of View(Simple, Complex, Updatable, Predicate View),
- 5.2. Queries based on View & Join
- 5.3. Sequence- Create, alter, Drop Sequence, Use of Sequence

#### 6. Database Trigger & Stored Procedures (4)

- 6.1. Trigger-Types, Enabling, Disabling, Create, Drop, Predicates- Inserting, Updating, Deleting
- 6.2. Stored Procedure- Definition, Implementation & Execution

#### REFERENCE BOOKS:

1. Mastering Database Technologies- Ivan Bayross
2. SQL by Scott Urman
3. Oracle 8- William G. Page Jr. and Nathan Hughes
4. Database System Concepts- Silberschatz, Korth, Sudarshan

#### Practical List

- 1) Create Database, table using data types( Create, Modify, Delete, Drop)
- 2) Write SQL queries to implement Insert, Delete, Update, Alter statement
- 3) Write SQL queries to apply table level & Column Level Constraints like Primary key, Foreign Key, Unique Key, Check, NULL, NOT NULL, Default
- 4) Write a SQL queries to use select statement with the use of different Clauses like Where, Group By, Order by, Having, Distinct
- 5) Write a SQL queries to implement different Functions Numeric, Aggregate, Character & Date
- 6) Write a SQL to demonstrate different Sub queries & Nested Queries.
- 7) Write a SQL queries to demonstrate different types of Joins.
- 8) Write SQL queries to perform different operation on View.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

## Paper: 306G: OBJECT ORIENTED PROGRAMMING USING C++

60 + 40 Pattern: External Marks 60 + Internal Marks (20 Marks Theory + 20 Marks Practical = 40 Marks) = Maximum Total Marks: 100

Required Lectures: 48 hours (30 Hours Theory + 18 Hours Practical)

### Objectives:

- To gain the basic knowledge of programming language & build logical thinking.
- To understand the behavior of real life entities through practicality.
- To gain the knowledge or different structure.

#### 1. Introduction & moving from C to C++ (6)

Difference between Structures oriented & Object oriented programming language, Advantages of C++, Structure of C++ Program, Single & Multi line Comment, Literals- Constant Qualifier, Variables, Data types in C++, Type Conversion, Array, Strings.

#### 2. Operators & Expression (6)

Character Set, Operators, Types of Operators (Arithmetic operators, Relational Operator, Logical Operator, Bitwise Operator, and Increment & Decrement Operators), and Operator Precedence & Associativity.

#### 3. C++ At a Glance (4)

Introduction, Data Encapsulation & Abstraction-Classes, Inheritance- Base & Derived Class, Polymorphism- Operator & Function Overloading, Friend Function. Control flow statement-If-else, nested if- else, for loop, while loop, do...while loop, Switch statement, goto statement, and break Statement.

#### 4. C++ Structure & Inheritance (6)

Difference between Structure & C++ Program, C++ Program Structure, Visibility Mode, Access Specifier scope, Concept-Inheritance, Types- Simple, Multiple, Multilevel, Hybrid Inheritance

#### 5. Constructor & Destructor (4)

Introduction, Types of Constructor (Default, Parameterized & Copy Constructor), Constructor Overloading, Destructor

#### 6. Exception Handling (4)

Introduction, Basics of Exception Handling, Types of Exception Handling, Exception Handling Mechanism (Try, Throw & Catch).

### REFERENCE BOOKS:

1. Object oriented programming with C++ : E. Balagurusamy, 3<sup>rd</sup> Edition
2. Mastering C++: K. R. Venugopal, Rajkumar, T. Ravishankar.
3. The Complete Reference C++: Herbert Schildt, 4<sup>th</sup> Edition
4. C++ By Example under C Learning: Steve Donovan
5. Let us C++: S. Jaiswal, Galgotia Publication
6. Let us C++: Yashwant Kanetkar

### PRACTICAL LIST

1. Write a C++ program to demonstrate use of operators( Arithmetic, Logical, Relational, Bitwise, Increment & decrement)
2. Write a C++ program to demonstrate use of if...else, nested if else
3. Write a C++ Program to demonstrate use of FOR, While & Do....While Loop.
4. Write a C++ program to demonstrate use of array.
5. Write a C++ Program to demonstrate use of encapsulation.
6. Write a C++ program to demonstrate use of different types of Inheritance.
7. Write a C++ program to demonstrate Function & Operator Overloading.
8. Write a C++ program to demonstrate use of Friend Function.
9. Write a C++ program to demonstrate different types of Constructor & destructor.
10. Write a C++ Program to demonstrate use of exception handling.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: III

#### Paper: 307G: SYSTEM ANALYSIS & DESIGN

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours (50 Hours Theory)

#### Objective of Course:

- Plan and organize an information systems development project.
- Apply system analysis and design techniques to define and document information system requirements
- Apply systems analysis and design techniques to develop object-oriented models (UML diagrams) of information systems
- Evaluate models of an information system

- 1. System Concept:** (6)
  - 1.1. Definitions, Types of Systems, Characteristics and elements of System
  - 1.2. Role of Software Engineer/Analysts/Users in the various phases of Systems
  - 1.3. Development Life Cycle
- 2. General phases of Systems Development Life Cycle:** (12)
  - 2.1. Feasibility Study, Requirements Capture, Detailed Systems Analysis, Systems Design,
  - 2.2. Testing, On-site Implementation and Maintenance, Fact Finding Methods
- 3. Different Approaches to Software Development** (10)
  - 3.1. Waterfall Model, Spiral Model, Prototyping, RAD, Object Oriented
- 4. Process & Data Modeling –** (6)
  - 4.1. Data Flow Diagrams; Concept of Object Oriented Modeling
  - 4.2. Data Modeling - Entity Relationship Diagrams
- 5. Database Design:** (8)
  - 5.1. Normalization Technique for Database Design; De-normalization
- 6. System Documentation Techniques:** (2)
  - 6.1. System Flow Charts; Functional Decomposition
  - 6.2. Diagrams; Structured Flow Charts (N-S Diagrams)
- 7. Logic Representation Techniques:** (2)
  - 7.1. Decision Trees;
  - 7.2. Decision Tables;
  - 7.3. Pseudo code and Structured English
- 8. Users Interface Design:** (2)
  - 8.1. Menu, Screen and Report Layout Designing
  - 8.2. Introduction to Computer Aided Software Engineering (CASE)

#### REFERENCE BOOKS:

1. Analysis and Design of Information System 2nd Ed. - Senn
2. Software Engineering Practitioner's Approach - Roger Pressman
3. Introduction to Systems Analysis and Design - Hawryszkiwycz
4. Systems Analysis and Design - Elias Awad
5. Introducing Systems Analysis and Design - Lee
6. Systems Analysis and Design - Perry Edwards
7. Software Engineering Concepts – Fairley
8. Software Engineering – K.K.Agrawal

# Specialization –H– Retail Management



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

**Paper: 304 H :Introduction to Retail Management**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives:

- To understand the scenario of Retailing.
- To get in depth knowledge of Retail and functions of Retailing.
- To be able to understand the recent trends in Retailing.

### 1. Fundamentals of Retailing

(12)

#### 1.1. Retailing:

- 1.1.1. Concepts of Retail, Retailing & Retail Management
- 1.1.2. Types and functions of Retailers
- 1.1.3. Characteristics, Role, Importance, functions and Principles of Retailing
- 1.1.4. Evolution of retailing in India- Growth, Reasons for growth,
- 1.1.5. Emerging trends in retailing - New approaches in Retailing
- 1.1.6. Indian Vs Global Scenario and careers in retailing
- 1.1.7. Concept of value chain in retail, Services retailing, ethical issues in retailing.

#### 1.2. Retailing Formats

- 1.2.1. Store-based (1) By Ownership, (2) On the basis of Merchandise: Food-based & General Merchandise-based
- 1.2.2. Non Store-based : Traditional & Non-Traditional
- 1.2.3. Organized vs Un-organized Retailing

### 2. Retail Location, Design and Layout

(08)

- 2.1. Factors affecting retail location decision-Site selection-Location based retail strategies, Store design-Interiors & exteriors.
- 2.2. Store layout – Types of layouts – Factors affecting store layout – Retailing image mix: (employees, merchandise, fixtures, sound, odor, visual, etc.) Effective Retail Space Management
- 2.3. Live Exercise –To visit and observe any retail Supermarket from view point of location, store layout, merchandise arrangement and space utilization followed by group discussion in class room.

### 3. Managing a Retail Business-

(06)

- 3.1. Human Resource Management in Retailing:
- 3.2. Significance of Human resources in retail, Gaining competitive advantage through HRM, Designing retail organization structure, Motivating retail employees.
- 3.3. Retail store operations-Functional areas of retail operations, store operating parameters, strategic resource model in retailing
- 3.4. Theories of Retail Development: Environmental Theory, Cyclical Theory and Conflict Theory.

### 4. Merchandise Management

(12)

- 4.1. Basics of Retail Merchandising: Meaning, Evolution
- 4.2. Factors affecting buying functions
- 4.3. Roles & Responsibilities of Merchandiser & Buyer
- 4.4. Buying for a single store, chain store & Non store retailers
- 4.5. Lifestyle merchandising
- 4.6. Merchandising Planning: Concept and Process of Merchandising Planning
- 4.7. Developing Sales forecast
- 4.8. Determining Merchandising requirements
- 4.9. Merchandising Control & Assortment planning

- 4.10. Evaluation of Merchandise performance
- 4.11. Retail pricing: concepts & elements
- 4.12. Determining price, ii) Retail Pricing policies/ Strategies

**5. Private Labels in Retailing**

**(05)**

- 5.1. Concept, Importance, evolution of private labeling in retail.
- 5.2. Role of private labels, current scenario in India
- 5.3. Factors influencing private labels development, promotion of private labels
- 5.4. Transition of private labels to store brands
- 5.5. Theory of retail incubation and propagation

**6. Rural retailing & Legislation for Retailing**

**(05)**

- 6.1. Concept, opportunities and challenges in rural retailing.
- 6.2. Regulations and Policies for the rural retailing
- 6.3. Regulations to promote healthy retail competition, product related regulations.
- 6.4. Legal compliances in store operations
- 6.5. Taxation and its impact on retailing
- 6.6. Live Exercise- Students shall study various rural retail projects like Hariyaali Kisaan Bazaar, Project Shakti, e-choupal, Kisanseva kendra etc. followed by class room presentations.

**REFERENCE BOOKS:**

- 1. Retail Management: Swapna Pradhan – Tata Mcgraw Hill
- 2. Retail Management by Berman & Evans - Pearson
- 3. Retail Management: Suja Nair, First Edition 2006
- 4. Retail Management: A global Perspective: Dr. Harjeet Singh – S. Chand & Sons
- 5. Retail Management by Areef Sheikh & Kaneez Fatima
- 6. Retail Management by Bajaj, Tuli & Srivastava
- 7. Retail Management - Functional Principles & Practices by Gibson G. Vedamani, Jaico publishing house
- 8. Fundamentals of retailing by K.V.S. Madan, Tata Mcgraw Hill Publications



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### Paper: 305 H – Retail Promotion & Consumer Behavior

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To know the Retail promotion and advertising strategy.
- To provide essential knowledge of core concepts like market segmentation, customer loyalty, Consumer behavior.
- To prepare students to undertake practical assignments and live projects in various retail stores.

#### 1. Retail Promotion Strategy – (8)

- 1.1. Advertising sales promotion and publicity
- 1.2. Communication and stages of Models of Communication: what is communication, types of communication, important issues for consideration
- 1.3. Deciding objective of sales promotion
- 1.4. determining budget and allocation of budget
- 1.5. Implement promotional plans and evaluate implementation programs
- 1.6. Live assignment: visiting D-mart and Big bazaar in the festive season to understand the different retail promotional strategies

#### 2. Advertising, Sales Promotion and Publicity (12)

- 2.1. Developing plans for advertising
- 2.2. When to advertise, what to advertise, where to advertise and how to advertise
- 2.3. Sales promotion by vendor originated and retailer originated
- 2.4. Planning of promotional events & Limitations and benefits of promotional events
- 2.5. Ways to effective publicity and Dos and don'ts of effective publicity
- 2.6. Live assignment: analyzing list of advertising as per the products and brands available in the Retail store

#### 3. Retail Promotional Strategy— (8)

- 3.1. Store atmosphere and personal selling
- 3.2. Display as promotional tool: window display, interior display
- 3.3. How display affects the sales
- 3.4. Types of retail selling :Personal selling
- 3.5. Competencies, common errors of personal selling cause poor performance
- 3.6. Ideal selling: evaluate sales performance
- 3.7. Importance of CRM and personal selling

#### 4. Retailing Strategy (4)

- 4.1. Store image and target customer
- 4.2. Sustainable competitive advantage
- 4.3. Customer loyalty, vendor relation, location and low cost operations

#### 5. Market segmentation and growth strategy (6)

- 5.1. Establishing retail mix: components of retail mix

- 5.2. Market penetration, market expansion and diversification
- 5.3. Retail mix scales: innovative strategies, coordinate efforts, avoid diffusion

6. **Retail Consumer Behavior**

**(10)**

- 6.1. Major factors influencing buying behavior : cultural, social, personal, psychological
- 6.2. Purchase decision: basis of purchasing parameters and inducing factors
- 6.3. Customers buying behavior: complex, dissonance reducing, variety seeking, habitual
- 6.4. The buying decision process- a model: problem recognition, information search, Post purchase behavior
- 6.5. Live assignments: collecting data from the students actually filled at retail store for buying behavior and understanding the different factors influencing buying behavior

**REFERENCE BOOKS:**

- 1. Retail Management: Arif Shaikh and Kaneez Fatima, Himalaya Publishing
- 2. Retail Management: Swapna Pradhan – Tata McGraw Hill
- 3. Consumer Behavior and Text and Cases, Satish K.Batra, Excel Book
- 4. Consumer Behavior Building Marketing Strategy, Hawkins, Mc.Graw Hill
- 5. Consumer Behavior, Solomon, Pearson Publication
- 6. Marketing Management, (Kotler, Koshy, Keller, Jha), Pearson Publication





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

**SEMESTER: III**

### **Paper: 306 H –Retail Supply Chain Management**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### **Objective:**

- To understand the fundamental of supply chain.
- To get acquainted about Retail logistics.
- To provide knowledge of Retail distribution channels.

#### **1. Fundamentals of Supply Chain**

**(06)**

- 1.1. Meaning and importance of Supply Chain
- 1.2. How Retail Supply Chain is Different from Manufacturing Supply Chain
- 1.3. Aligning the Supply Chain with Business Strategy.
- 1.4. Supply Chain Linkages
- 1.5. Decision phases in supply chain
- 1.6. Supply chain flows
- 1.7. Cycle view of supply chain
- 1.8. Drivers of retail supply chain

#### **2. Retail Distribution Channels-**

**(08)**

- 2.1. Participants in the Distribution Channel, Need for distribution Channel and Types of Channels
- 2.2. Channel relationships-
  - 2.2.1. Retail supplier relationship management- retail sourcing, merchandise procurement, global Sourcing, and sourcing measures.
- 2.3. Retail customer relationship management- Introduction, customer service, order management,
- 2.4. Retail loyalty programmes, retail kiosks and Green retailing – what it means to CRM, measures of Retail CRM.
- 2.5. Direct Store Delivery (DSD), Managing Retail Home Delivery.
- 2.6. Live Exercise-Students shall visit the office of a manufacturer/marketer of any consumer/industrial
- 2.7. goods and discuss the distribution channels used by them in order to make their product available to the buyers/ customers.

#### **3. Managing Retail Logistics-**

**(12)**

- 3.1. Introduction to retail logistics management – Elements of retail logistics, Retail logistics structure, Importance and Retail logistics trends.
- 3.2. Retail Transport-Transportation Infrastructure, Freight Management, Freight Costs, Transportation Networks, Route Planning, Containerization.
- 3.3. Retail Warehousing-Warehousing Functions, Consolidation, Warehouse Site Selection, Size, Layout, Warehouse Costing, Warehousing Strategies, Virtual Warehouses, Cold Chain Infrastructure.
- 3.4. Retail returns and reverse logistics-challenge of product returns, scope of reverse logistics, system design for reverse logistics, reverse logistics – a competitive tool
- 3.5. Logistics Outsourcing-
- 3.6. Drivers of Outsourcing Trend, Benefits of Outsourcing, Third Party & Fourth Logistics, Selection of Service Provider, Value Added Services, Service Contracts.

#### **4. Category and Format Specific Supply Chain Issues-**

**(08)**

- 4.1. Food and Grocery Retailing Supply Chain- Food and Grocery Retailing, Food and Grocery Supply Chain Characteristics, Fresh Fruit and Vegetable Supply Chain, Managing the Cold Chain, Dairy Retailing, Technology Requirements for Food and Grocery Retailing

- 4.2. Apparel and Footwear Retailing Supply Chain-Understanding the Segment, Apparel Retailing Supply Chain, Supply Chain Characteristics, Apparel Retailing in India, Apparel Retail Supply Chain Innovations, Footwear Retailing.

**5. Other Category Retailing Supply Chains- (08)**

- 5.1. Consumer Electronics Retailing - Understanding the Segment, Consumer Electronics Retailing Supply Chain Characteristics, Jewelry Retailing, Home Furnishing Retailing,  
5.2. Health and Beauty Retailing, Pharma Retailing, retailing of Books and Music, Retailing of Financial Products and Retail Banking, Courier Service Retailing, Service Retailing.  
5.3. Live exercise- Students shall visit any retail mall/ outlet from above category products to study its retail supply chain followed by presentation in class room.

**6. Information Technology for retail supply chain & logistics- (06)**

- 6.1. Information Needs, Desired Characteristics of Information Systems, Retail Technology Maturity Model  
6.2. Bar Coding & RFID- product tracking in transit  
6.3. Retail ERP  
6.4. Mobile Applications  
6.5. Retail Analytics, Point of Sales Solutions  
6.6. Green Information technology and other Emerging Retail Technologies

**REFERENCE BOOKS:**

1. Retail Supply chain Management: Rajesh Ray –Mcgraw Hill education
2. Supply Chain Management in the Retail Industry-Michael H. Hugos, Chris Thomas, Wiley Publications
3. Channel Management and retail marketing by Meenal Dhotre.
4. Supply chain Management by V.V. Sople
5. Supply Chain Management by Rahul V. Altekhar



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

## 307 H: Mall Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives:

- To understand the current scenario of Shopping Malls with challenges.
- To get in depth knowledge of Mall development.
- To provide knowledge of Mall maintenance, tenant mix etc.

### 1. Introduction to Shopping Malls (08)

- 1.1. Introduction, Emergence of Organized retail in India,
- 1.2. Evolution of Shopping Malls
- 1.3. Malls move out of Indian Metros
- 1.4. Types of shopping malls
- 1.5. Factors stimulating growth of shopping malls in India
- 1.6. Challenges of Mall development in India.

### 2. Mall Development (08)

- 2.1. Introduction, Planning & design Decisions.
- 2.2. Site for shopping malls, Mall Design process, Capital sources of malls, Sources of revenues, Strategic decisions in mall financing.

### 3. Tenant Mix (10)

- 3.1. Introduction, Zoning, Concept of Tenant mix, important terms related to Tenant mix, Five attributes of Tenant mix, Tenant mix modification to flow with times.
- 3.2. Models of Tenant mix improvement. Future direction of Tenant mix management. Concept of anchor store.

### 4. Maintenance Management (06)

- 4.1. Areas of maintenance, Housekeeping services, security services, Fire management, parking management, Finance, HR policies, some common Engineering system.

### 5. Marketing Planning (08)

- 5.1. Marketing planning, Facilitating marketing planning process, Graphical summary of marketing plans. Customer segmentation methodology, 4P's, Marketing communication, Branding methodology. Brand valuation, Market research.

### 6. Attributes of Mall (08)

- 6.1. Entertainment, Relationship between key constructs and overall satisfaction, important factors related to consumer choice of choosing shopping centers, Dimensions of retailer attributes, shopping centers and food court, Common area kiosks.

### REFERENCE BOOKS:

1. Mall Management with case studies (2<sup>nd</sup> Edition)- Abhijit Das, Taxmann's, New Delhi.
2. Retail Management: Arif Shaikh and Kaneez Fatima, Himalaya Publishing
3. Mall Management- operating in Indian Retail space, Harvinder Sing, Srin R Srinivasan
4. Retail Management: Swapna Pradhan – Tata McGraw Hill

## **Specialization –I– Hospitality Management**

### **Objective of the course:**

The syllabus is aimed to organize, integrate, and present information about managing hospitality organizations, which comes from academic studies and by experience. It is designed to meet the needs of hospitality management students in exploration of this exciting, undeveloped area. It should also guide students to implement a guest-focused service strategy in any hospitality or service organization that wants to compete successfully in today's customer-driven market.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 304 I: Hospitality Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To study the fundamental aspects of hospitality management
- To study Hospitality business models, Practices, Strategies
- To study Front Office Division, services & communication.

#### 1. Nature and Scope of Hospitality Business

06

- 1.1. A generic view of Hospitality and Tourism business, Various characteristic of Hospitality industry
- 1.2. Corporate culture, Philosophy and Mission statement of the business.
- 1.3. Service – a focal point, Various ways to improve service, TQM approach in service

#### 2. Hospitality business models, Practices, Strategies

08

- 2.1. Careers in hospitality – Career goals, Professionalism, Etiquettes, Self-assessment and Personal philosophy
- 2.2. Hospitality industry in India
  - 2.2.1. Emerging trends in hospitality industry
  - 2.2.2. Career options in hospitality industry
  - 2.2.3. Eco friendly practices in hospitality industry
- 2.3. Customer care in hospitality industry
- 2.4. Social Responsibility – Ethical dilemmas
- 2.5. Careers in allied industry

#### 3. Hotel industry –

08

- 3.1. Classification of hotels, Hotel integration, Hotel chain
- 3.2. Organizational Structure of Hotel
  - 3.2.1. Departments in hotel and their functions
  - 3.2.2. Organizational charts in hotels
  - 3.2.3. Facilities provided in hotels
- 3.3. Classification of hotels
  - 3.3.1. Types of rooms
  - 3.3.2. Room Rates
  - 3.3.3. Classification of hotels
- 3.4. Registration & Gradation of Hotels

#### 4. Recreation management

06

- 4.1. Recreation – Leisure and for Wellness
- 4.2. Types of Recreation – Sponsored, Non-sponsored, Commercial and Non-commercial recreation
- 4.3. Gaming, Entertainment – Size and Scope, Trends in Gaming industry
- 4.4. Meeting, Incentive Travel, Conventions and Exhibitions (MICE) – Overall perspective of MICE w.r.t trends

**5.1. Front Office Division**

- 5.1.1. Front Office department and its functions
- 5.1.2. Sections and layout of Front Office
- 5.1.3. The organization structure of rooms division
- 5.1.4. Organizational chart of front office department (small, medium and large hotels)
- 5.1.5. Duties and responsibilities of various staff
- 5.1.6. Attributes of front office personnel
- 5.1.7. Co-ordination of front office with other departments of the hotel
- 5.1.8. The Guest Cycle
- 5.1.9. Property Management Systems

**5.2. Front Office Services**

- 5.2.1. Equipments used (Manual and Automated)
- 5.2.2. Role of Front Office in
- 5.2.3. key control and key handling procedures
- 5.2.4. mail and message handling
- 5.2.5. paging and luggage handling
- 5.2.6. bell desk and concierge
- 5.2.7. Rules of the house
- 5.2.8. Black list

**5.3. Front Office Communications & Other Attributes**

- 5.3.1. Communication Fundamentals
- 5.3.2. Telephone etiquettes – restaurant and hotel English
- 5.3.3. Professional Attributes - Attitude towards your job,
- 5.3.4. Personal Hygiene
- 5.3.5. Uniforms
- 5.3.6. Care for your own health & safety
- 5.3.7. Important terminology used in hotels

**6. Global Perspective of Hospitality Economy and a futuristic view**

- 6.1. Tourism – International Organization, Domestic organizations, Long term prospect of tourism industry: Vision 2020
- 6.2. The economic impact of tourism and its multiplier effect
- 6.3. Social and cultural impact of tourism, Sustainable Tourism, Ecotourism etc.

**References**

1. Introduction to Hospitality Management by John R. Walker – Pearson
2. Hotel front office management by James A. Bardi.—3rd ed. - John Wiley & Sons
3. Hospitality Management By Prof. Jagmohan Negi, Gaurav Manohe – University science Press New Delhi
4. Hotel Front Office: Operations and Management by Jatashankar R. Tewari, Oxford
5. Hospitality Marketing Management by Robert D. Reid (Author), David C. Bojanic (Author) John Wiley & Sons



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 305 I: Hospitality Marketing Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To study Marketing Mix and Marketing Strategies for Hospitality sector.
- To study Marketing and positioning of hospitality services.
- To understand License & Permits required for Hotels

#### 1. Marketing for Hospitality and Tourism:

06

- 1.1. Service Characteristics,
- 1.2. Segmentation,
- 1.3. Targeting and Positioning of Hospitality Industry,
- 1.4. Environmental influence on Hospitality
- 1.5. Marketing Mix and Marketing Strategies for Hospitality and Tourism.

#### 2. Marketing of Hospitality Services

10

- 2.1. Concepts & Issues : Marketing of Hospitality and Tourism
- 2.2. Services – Management and Marketing of Tourism in India-
- 2.3. Hospitality Marketing : A Special Case in Services Marketing.
- 2.4. Future trends in Hospitality Industry –
- 2.5. Usage of CRS in Hotel Industry,
- 2.6. operational usage through chain of hotels.
- 2.7. Role of Associations in hospitality management- Functions and operations.

#### 3. Positioning of services –

08

- 3.1. Designing service delivery System,
- 3.2. Service Channel –
- 3.3. Pricing of services, methods –
- 3.4. Service marketing triangle –
- 3.5. Integrated Service marketing communication.
- 3.6. Service Marketing Strategies for health –
- 3.7. Hospitality – Tourism – Financial – Logistics - Educational – Entertainment & public utility  
Information technique Services

#### 4. Distribution Channel

10

- 4.1. Introduction
- 4.2. Functions of distribution channel
- 4.3. Number of channel levels
- 4.4. Distribution Channel in Hospitality

- 4.4.1. Travel Agents
- 4.4.2. Tour Operators
- 4.4.3. Specialists
- 4.4.4. Hotel Representatives
- 4.4.5. National, State and Local Tourist Agencies
- 4.4.6. Global Distribution System
- 4.4.7. Consortia and Reservation Systems
- 4.4.8. Concierge
- 4.4.9. Internet-Online travel companies,
- 4.4.10. Individual hotel website, mobile phones

## **5. Laws & Guidelines:**

**06**

- 5.1. Recognition of Travel Agency,
- 5.2. Tour Operator and Travel Guide
- 5.3. License & Permits required for Hotels: National & International Organization: IATA, PATA, ICAO, WTO, UFTAA, FHRAI, TAAI.

## **6. Brand Building & Promotional activity for development of Hospitality Sector**

**08**

- 6.1. Branding of location (Adventure, heritage, cultural etc)
- 6.2. Branding of service operators
- 6.3. Branding at state & National Level
- 6.4. Promotional tools and techniques used for brand building
- 6.5. Digital marketing avenues for hospitality sector

## **References**

- 1. Hospitality Marketing Management, Fifth Edition by Robert D. Reid and David C. Bojanic - Willey
- 2. Hospitality Marketing By David Bowie, Francis Buttle - Elsevier
- 3. Stephen Ball, Jones Peter, Kirk David and Lockwood Andrew - Hospitality Operations: A System Approach (Cengage Learning, 1<sup>st</sup> Ed.)
- 4. Marketing for Hospitality and Tourism - Kotler Philip, Bowen John and Makens James - (Pearson Education, 3rd Ed.)
- 5. Services Marketing, Chiristopher H.Lovelock and Jochen Wirtz, Pearson Education, New Delhi, 7th edition, 2011.





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 306 I: Travel and Tourism Management:

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To study travel & tourism management w.r.to India
- To study different types of tourism & its future prospects vis a vis India
- To evaluate the components of demand and supply of tourism services.

|  |           |
|--|-----------|
| <b>1. Introduction</b>                             | <b>08</b> |
| 1.1. Introduction to travel and tourism            |           |
| 1.2. Development of tourism through ages (History) |           |
| 1.3. Future prospects                              |           |
| 1.4. Impact of tourism                             |           |
| 1.5. Indian and Global perspective of tourism      |           |
| <b>2. Types</b>                                    | <b>10</b> |
| 2.1. Types of tourism                              |           |
| 2.2. Ecotourism                                    |           |
| 2.3. Heritage Tourism                              |           |
| 2.4. Religious tourism                             |           |
| 2.5. Agrotourism                                   |           |
| 2.6. Adventure tourism                             |           |
| 2.7. Wildlife tourism                              |           |
| 2.8. Sports tourism                                |           |
| 2.9. Medical tourism                               |           |
| 2.10. Cultural tourism                             |           |
| 2.11. Emerging new areas                           |           |
| <b>3. Organisational Support</b>                   | <b>10</b> |
| 3.1. Tourism Organisations                         |           |
| 3.2. Promoters of tourism                          |           |
| <b>4. Tourist Transport</b>                        | <b>08</b> |
| 4.1. Transportation: Different Modes               |           |
| 4.2. Domestic travelling                           |           |
| 4.3. International Travelling                      |           |
| <b>5. Sustainability and Monitoring</b>            | <b>06</b> |
| 5.1. Sustainability: Importance and problems       |           |
| 5.2. Monitoring : Need and Techniques              |           |
| <b>6. Demand and Supply</b>                        | <b>06</b> |
| 6.1. Basic Tourism Supply Components               |           |
| 6.2. Measurement of Tourism Demand                 |           |

### Reference Books

1. Tourism: Operations and Management, 1/e, by Sunetra Roday, Archana Biwal, & Vandana Joshi - Oxford
2. Tourism: Principals and Practices, Oxford,1/e, Sampad Kumar Swain & Jitendra Mohan Mishra
3. Tourism in Global Perspective, Global Vision Publishing House, Dr Sukanta Sarkar
4. Sustainable Tourism, Global Vision Publishing House, S. R. Chauhan
5. Monitoring Tourism, Sonali Publications, Romila Chawla
6. Tourism Marketing by Manjula Chaudhary - Oxford



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 307 I: Human Resource Management in Hospitality Industry

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To study Human resource activities in Hospitality sector
- To study the different HR function required in hospitality industry
- To study retention policies in hospitality industry.

#### 1. HR & Hospitality Industry (An Overview)- 06

- 1.1. Concept of Hospitality
- 1.2. HR Activities/Functions in Organizations
- 1.3. Diversity in Hospitality Workers
- 1.4. Views of HRM in Hospitality

#### 2. Employee Recruitment & Selection- 08

##### 2.1. Recruitment-

- 2.1.1. Labor Market-Primary & secondary
- 2.1.2. Sources of Recruitment-Internal & External
- 2.1.3. Recruitment Process
- 2.1.4. Future of Recruiting in Hospitality Industry

##### 2.2. Selection-

- 2.2.1. Concept of Selection
- 2.2.2. Process & Factors affecting Selection Efforts

#### 3. Delivering & Evaluating Training- 06

- 3.1. Concept of Training
- 3.2. Methods-Individual-On job and Off Job
- 3.3. Group Training-Concept, Preparing Group for Training and Methods
- 3.4. Evaluation of Training Programs

#### 4. Performance Management & Appraisal- 08

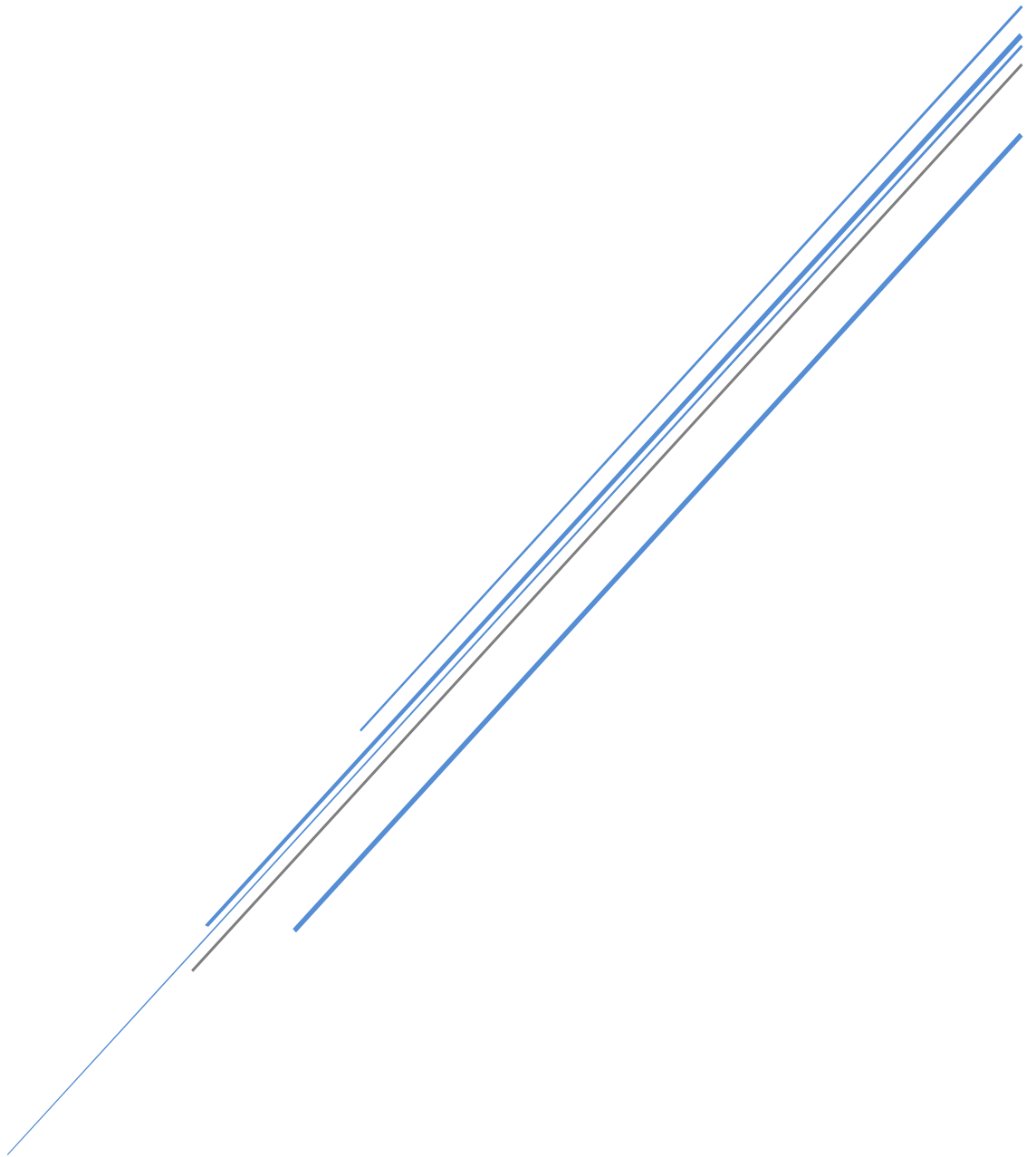
- 4.1. Performance Appraisal-Concept and Overview
- 4.2. Performance Management- Concept
- 4.3. Common Methods of Appraisal
- 4.4. Other Methods of Appraisal
- 4.5. Behavior Improvement Tactics

|   |               |
|---|---------------|
| <b>5. Reward &amp; Compensation Strategies in Hospitality Industry-</b> | <b>08</b>     |
| 5.1. Employee's & Employer's View of Pay                                |               |
| 5.2. Remuneration in Hospitality Industries                             |               |
| 5.3. Practice if Tipping  |               |
| 5.4. Financial(Direct & Indirect) Compensation                          |               |
| 5.5. Non-Financial Compensation   |               |
| 5.6. Retaining manpower in hospitality                                  |               |
| <br><b>6. Employee Relation, Welfare, Health &amp; Safety-</b>          | <br><b>12</b> |
| 6.1. Employee Relation-   |               |
| 6.1.1. Employee or Industrial Relations                                 |               |
| 6.1.2. Trade Unions   |               |
| 6.2. Welfare, Health & Safety Issues-                                   |               |
| 6.2.1. Absence Management   |               |
| 6.2.2. AIDS/HIV   |               |
| 6.2.3. Drug Misuse-Alcohol & Smoking                                    |               |
| 6.2.4. Sexual Harassment  |               |
| 6.2.5. Stress   |               |
| 6.2.6. Work time  |               |
| 6.2.7. Workplace Violence   |               |

#### Reference Books

1. HRM in Hospitality Industry-David Hayes, Jack D. Ninemeier-John Wiley & Sons
2. HRM for the Hospitality & Tourism Industries-Denis Nickson- Butterworth's
3. HRM in Hospitality Industry-M J Boella, Nelson Thornes Ltd.
4. Human Resource Management in Hospitality by Malay Biswas - Oxford
5. Human Resource Management, P S Rao, Himalaya

# SEMESTER IV





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

## **Paper: 401: Current Business Scenario**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### **Objective :**

To equip the students with the Current Indian Business Scenario and decision making.

### **1. Business Environment**

**(6)**

- 1.1. Meaning and Definition, Scope of Environment
- 1.2. Environmental Factors, Characteristic of Business environment, Indian Perspective
- 1.3. Environmental Risk Overview, Methods of Assessing Environmental Risk, Managing Environmental Risk
- 1.4. Market Opportunities
- 1.5. Distribution of Indian Household by Income

### **2. Economic Overview**

**(12)**

- 2.1. Emergence of Planning, five year plan challenges
- 2.2. The Planning Commission of India, The National Development Council and Niti Aayog
- 2.3. Highlights of Five Year Plan -2012-2017, infrastructure and Indian planning
- 2.4. Policies of Indian Government
  - New Industrial Policy-Historical Background, Meaning and Objectives, Recent Industrial Policy- MSME Sector
  - Indian Industrial Licensing- Objectives, Policy
- 2.5. The Indian Financial System- Structure and Functions, Markets-Money, Capital and Bill
- 2.6. Industrial Structure: Classification of Industry, Industrial Structure of India, Ownership sectors, Major Industries
- 2.7. Privatisation and Disinvestment of PSUs - Concept, Meaning, Objectives and government performance in last decade

### **3. Problems of Growth in India**

**(10)**

- 3.1. Poverty- Concept, Factors Responsible, People Living Under Poverty Line, Measure to reduce Poverty Line
- 3.2. Unemployment- Concept, Factors Responsible, Types, Government Policy Measures to Reduce Unemployment
- 3.3. Inflation-Meaning, Overview, Measures, Effects of Inflation, Global Inflation and India
- 3.4. Human Development-Concept, Importance, Gender Situation
- 3.5. Rural Development- Concept, Importance, Important features of Rural Economy and Society, Challenges
- 3.6. Other- Parallel Economy, Regional Imbalance, Social Injustice

### **4. Management Systems (MS)- Certification Schemes**

**(6)**

- 4.1. Overview of Bureau of Indian Standards
- 4.2. Quality Management System (IS/ISO 9001)
- 4.3. Environmental Management System (IS/ISO 14001)
- 4.4. Hazards Analysis and Critical Control Point (IS 15000)
- 4.5. Occupational Health and Safety Management System (IS 18001)
- 4.6. Food Safety Management System (IS/ISO 22000)

- 4.7. Quality Management Systems - Requirements for service quality by public service organizations (IS 15700)
- 4.8. Energy Management System (IS/ISO 50001)
- 4.9. Six Sigma Certification

## **5. Global Competitiveness (6)**

- 5.1. Global Entry Strategies
- 5.2. Technology and Global Competition, Globalization and Human Resource Development, Globalization with Social Responsibility; Negotiating an International Business, Issues in Asset Protection; Multilateral Settlements

## **6. Indian Rural Market (8)**

- 6.1. Understanding Indian Rural Economy- Introduction, Rural Urban Disparities, Diagnosis of Failure, Rural Face of reforms, Towards Cyber India.
- 6.2. Rural Banking System- Rural Indebtedness and Rural Credit, The co-operative Banks, Commercial Banks-Functions, Problems
- 6.3. Agriculture and Indian Economy
- 6.4. Various Employment Generation Schemes.

- **Comprehensive Cases on various business environments can be discussed and solved. (No Case Study in University Examinations)**

### **REFERENCE BOOKS**

1. Business Environment, 2/E- Saleem Shaikh-Pearson
2. Business Environment – Paleri – Cengage Learning
3. Fundamentals of Business Environment by Shukla – Taxmann
4. Economic Environment of Business - By Pailwar-PHI
5. Economic Environment of Business-V. K. Puri , S. K. Misra-Himalayan Books
6. Business Environment- A.C. Fernando-Pearson
7. The International Business Environment – Janet Morrison- ANE Books Chennai
8. International Business Text and cases by Francis Cherunilam- PHI
9. International Business – By Rakesh Mohan Joshi-Oxford University Press
10. <http://www.bis.org.in/index.asp>
11. Cases in the Environment of Business international Perspective, David W Conklin, A South Asian Reprint, Sage India
12. Rural Development-Dr. I. Satya Sundaram, Himalaya Publishing House
13. Rural Marketing Indian Perspective- Awadesh Kumar Singh, Satya Prakash Pandey, New Age International Publication
14. Rural Marketing: Text and Cases- By C. S. G. Krishnamacharyulu- Pearson Education India



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

#### 402 – E-commerce and Excellence Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To get in-depth knowledge about various e-commerce terminology
- To understand business excellence

#### 1. Introduction to E-Commerce

- 1.1. History, E-Commerce Concepts, Definitions, Features of Electronic Commerce, Traditional vs. e-commerce transactions.
- 1.2. Electronic Commerce Framework, Benefits & Impact, Factors affecting Electronic Commerce, Challenges of e-commerce.
- 1.3. Classification of e-commerce: B2B, B2C, C2C, B2G, B2E.
- 1.4. The E-Commerce Domain and Applications
  - 1.4.1. e-Customer Relationship Management
  - 1.4.2. Enterprise Resource Planning
  - 1.4.3. e-Supply Chain Management
  - 1.4.4. E-Procurement
  - 1.4.5. E-Banking
  - 1.4.6. Knowledge Management.
  - 1.4.7. Call Center & BPO's etc.

#### 2. E-commerce Models

- 2.1. Native Content Based Models
- 2.2. Native Transaction Models
- 2.3. Transplanted Content based Models
- 2.4. Transplanted Transaction based Models

#### 3. E-Commerce Infrastructure

- 3.1. Meaning and concept of Cluster servers, Virtualization techniques.
- 3.2. Introduction to Cloud Computing, Hadoop and Google Apps Engine.
- 3.3. Network Infrastructure
  - 3.3.1. LAN, MAN, WAN, VPN
  - 3.3.2. TCP/IP Reference Model
  - 3.3.3. Domain Name Systems

#### 4. Security, Encryption and Law

- 4.1. Concept of Firewalls, types, need and benefit.
- 4.2. Computer Crime, types of crime and Computer security classification, E-Commerce threats, Security of Clients and server, Importance of Security.
- 4.3. Cryptography (Digital Signature): Public Key & Private Key.
- 4.4. Electronic Mail Security.
- 4.5. Cyber law
  - 4.5.1. Cyber laws aims and salient provisions.
  - 4.5.2. Copyright and intellectual Property concept relating to e-commerce.
  - 4.5.3. Cyber laws in India and their limitations.

#### 5. EPS and EDI

##### 5.1. Electronic Payment Systems:

- 5.1.1. Online Electronic Payment Systems,
- 5.1.2. Prepaid and Post Paid Electronic Payment Systems.



5.1.3.E-Cash, e-cheque, credit cards, debit cards, smart cards; E-Banking.

5.1.4.Inter-organizational commerce & intra—organizational commerce.

**5.2. Electronic data interchange**

5.2.1.Concept and Meaning of EDI and Paperless trading,

5.2.2.EDI architecture, EDI standards and components.

5.2.3.Internet based EDI, Web enabled EDI.

**6. Business Excellence**

6.1. Concept and Definition of business Excellence.

6.2. Business Excellence Models

6.2.1.EFQM

6.2.2.*Ericsson Business Excellence Model*

6.3. Excellence Maturity Model

6.4. Measuring Business Excellence.

6.5. Comparison of the Baldrige and EFQM

6.6. Quality awards & Excellence.

6.7. Overview & Development of Self-Assessment Process.

6.8. Achieving organizational Excellence.

## REFERENCE BOOKS

1. Business on the Net : What's and How's of E-Commerce - Kamlesh N Agarwala - Macmillan Publishers India
2. E-commerce - C.S.V. Murthy – Himalaya Publications.
3. E-commerce: Framework, Technologies & Applications 3<sup>rd</sup> Ed<sup>n</sup> – Bharat Bhaskar – Tata McGraw Hill
4. Electronic Commerce–Awad - Pearson
5. Electronic Commerce: a Managers Guide – Ravi Kalakota - pearson
6. E-Commerce -Greenstein and Feinman – Tata McGraw Hill
7. Assessing Business Excellence – L.J.Porter& S.J Tanner – ElsevierButterworth Heinemann
8. E-Commerce: The Cutting Edge of Business -Bajaj & Nag – TMH
9. Measuring Business Excellence - by Gopal K. Kanji – Routledge
10. E-Commerce – Mishra - Macmillan



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

### FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

#### SEMESTER: IV

#### 403: Indian Commercial Law

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

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#### Objectives:

- To provide the Basic knowledge about the Company.
- To increase the Understanding level of Individual about rights as a Consumer.
- To aware about the basic terms in the field of Information Technology.
- To provide the practical aspects in the light of case study.

#### 1. The Consumer protection Act, 1986 (7)

- 1.1. Who is consumer
- 1.2. who can make a complaint
- 1.3. Unfair Trade practices
- 1.4. Restrictive Trade Practices
- 1.5. Medical services and the consumer protection Act, 1986
- 1.6. Consumer Protection Councils
- 1.7. Consumer Dispute Redressal Agencies

#### 2. The Company Law – Companies Act 2013

- 2.1. Definition, characteristics , & types of company
- 2.2. Setting up of a company
  - 2.2.1. Incorporation of company
  - 2.2.2. Prospectus & public offer
  - 2.2.3. share capital , debentures
- 2.3. Management & Administration
  - 2.3.1. Directors: - Types, Duties & Liability, Responsibilities
  - 2.3.2. Corporate Social Responsibility
- 2.4. MOA & AOA: - Meaning & Content
- 2.5. Winding up of the company & its types

#### 3. Cyber laws – Information Technology Act 2000

- 3.1. Objectives & scheme of the IT Act 2000
- 3.2. Digital signature – i) meaning ii) Authentication of electronic records – Asymmetric Crypto system , Electronic records , Key pair , Private key , Public Key
- 3.3. Electronic Governance –
  - 3.3.1. Legal recognition of electronic records & digital signature
  - 3.3.2. Use of electronic records & digital signature in Government & its signature
  - 3.3.3. Retention of Electronic Records
  - 3.3.4. Powers to make rules by central government in respect of digital signature
  - 3.3.5. Definitions of – Information , electronic form , Computer , Computer network , Computer resources , Computer system , Data & functions.
  - 3.3.6. meaning of certifying authority under the act

#### 4. Right to Information Act 2005

- 4.1. Important theme w.r.t. Citizen, information & public authority
- 4.2. Enforcement and Penalty under act
- 4.3. Right of Third Party

#### 5. Arbitration

- 5.1. What is Arbitration

- 5.2. Arbitration Agreement
- 5.3. Appointment of Arbitrator
- 5.4. Arbitration Proceedings
- 5.5. Arbitral Tribunal
- 5.6. Arbitral Award
- 5.7. New York convention Awards
- 5.8. Geneva Convention Awards

**6. Case studies in Indian commercial laws – Typical case based on above topics only**

**REFERENCE BOOKS**

- 1. Mercantile & Commercial Laws by Rohini Aggarwal – Taxman Publication
- 2. Legal Aspects of Business by Akhileshwar Pathak – Tata McGraw Hill
- 3. Legal Aspects of Business by R.R. Ramtirthkar – Himalaya Publishing House
- 4. Mercantile Law by S.S. Gulshan – Excell Books
- 5. Elements of Merchantile Laws by N.D. Kapoor – Sultan Chand & Sons
- 6. Business law – Bulchandani - Himalaya



**North Maharashtra University, Jalgaon**

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

**404: Entrepreneurship & Project Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

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- 1. Entrepreneur and Entrepreneurship (04)**
    - 1.1. Entrepreneur - Concept, Functions, Types, Characteristics, Qualities and Role – Ideal Entrepreneur
    - 1.2. Entrepreneur vis-à-vis Professional Manager, Intrapreneur, Copreneur
    - 1.3. Distinction between wage employment, self employment & Entrepreneurship
    - 1.4. Entrepreneurial Competencies
    - 1.5. Entrepreneur and Entrepreneurship – Factors, Barriers & Problems and Process of Entrepreneurship
  - 2. Entrepreneurship Development (10)**
    - 2.1. Entrepreneurship Development: Concepts, Factors affecting, Development Cycle and Strategy
    - 2.2. Entrepreneurship Development Program (EDP): Concepts, Objective, Contents, issues, Phases, Evaluation. Institutions conducting EDP's in India
    - 2.3. Entrepreneurship Development Training: Importance, Objective, Methods
    - 2.4. Role of Institutions in Entrepreneurship Development - District Industrial Centre (DIC), Small Industries Services Institute (SISI), Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship and Small Business Units Development (NIESBUD), National Entrepreneurship Development Board (NEDB)
    - 2.5. Role of Central and State Government in Entrepreneurship Development
  - 3. Emerging areas in Entrepreneurship (08)**
    - 3.1. Women Entrepreneurship: Types, Challenges, Opportunities, Achievements, Problems, Remedial Measures & supporting Institutions and Role Models of Woman Entrepreneurs in India, Self Help Groups,
    - 3.2. Rural Entrepreneurship: meaning, need, Problems, Development, Role of NGO's, Entrepreneurship in agriculture, TRYSEM.
    - 3.3. Social Entrepreneurship: Genesis & Characteristic
    - 3.4. E- Entrepreneurship: Concept, Purpose and Essence.
  - 4. Family Business Management (08)**
    - 4.1. Importance of Family Business
    - 4.2. Types of Family business
    - 4.3. History of family businesses
    - 4.4. Responsibilities and Rights of Family Shareholders of a Family Business
    - 4.5. Succession in Family Business
    - 4.6. Pitfalls of the Family Business
    - 4.7. Improving Family Business Performance
    - 4.8. How to Overcome Nepotism in Family Businesses
    - 4.9. Management Development Plan in Family Business
    - 4.10. How to save the Family Business
    - 4.11. Seasonal Nature of the Family Business
  - 5. Project (08)**
    - 5.1. Project : Concept, Classification, Identification, Project Design, Project Appraisal, Project Planning,
    - 5.2. Formulation of Project Report - Cost Benefit Analysis, Technical Feasibility, Financial Feasibility, Managerial Feasibility, and Market Survey.
    - 5.3. Financing of the Project – Sources of Finance
    - 5.4. Role of Financial Institutions – Commercial Banks, IDBI, ICICI, SIDBI, SFC's, IFCI, NABARD, Venture Capital.

## 6. Project Management

(10)

- 6.1. Project Management Life Cycle: Project Initiation, Planning, Execution, Closure
- 6.2. Project Monitoring and Control – Parameters, Process
- 6.3. Monitoring and Control of group of Projects
- 6.4. Computer based Project Management
- 6.5. Integrated Project Management – Management of Project Finances, Materials – Production – Marketing – Personnel Management.
- 6.6. Project Audit

**\* Out of 40 internal marks the student has to prepare & submit a business plan for 10 marks. The students may refer & take help from local DIC or Banks.**

## REFERENCE BOOKS

### References for Entrepreneurship :

1. Dynamics of Entrepreneurship Development and Management – Vasant Desai, Himalaya
2. Entrepreneurship Development small business Enterprises – Poornima Charantimath - Pearson
3. Entrepreneurship, Robert D. Hisrich, Michal P. Peters, Tata McGraw-Hill Edition
4. Entrepreneurship by Ial and Sahai, Excel Books
5. Entrepreneurship Development and Project Management by Neeta Baporikar, Hiimalaya
6. Entrepreneurship Development in India by Gupta, Srinivasan – Sultan Chand & Sons
7. Entrepreneurship Management by Aruna Kaulgud - Thomson
8. Entrepreneurship Development by S.S. Khanka – S. Chand
9. Patterns of Entrepreneurship by Jack M. Kaplan, Willey Publications
10. Entrepreneurship Development by Cynthia L. Greene, Cenage Learning

### Project Management

1. Project Management by Gray, Larson – Tata McGraw Hill
2. Project Management by Vasant Desai- Himalaya
3. Project Management by Maylor - Pearson
4. Projects - [Prasanna Chandra](#) – CFM TMH Professional Series -Tata McGraw Hill
5. Project Management : Managerial Approach by Jack R. Merediths and Samuel J. Mantel Jr., Willey Publications
6. Contemporary Project Management by Timothy J. Kloppenborg, Cenage Learning
7. Project Management and Control by Narendra Singh, Himalaya Publishing House
8. Project Management by Panneerselvam, Senthilkumar – PHI
9. Project Management by Nagarajan – New Age International

# Specialization –A – Financial Management



North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

**405 A –Financial Derivatives**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

## Objectives:

- To understand the concept of derivatives, various derivative instruments and the techniques of hedging the risks.

### **1. Introduction to Financial Derivatives**

**(08)**

- 1.1 Financial Derivatives: Meaning, need, Features, Types, Uses, Critiques
- 1.2 Derivative markets – participants & functions
- 1.3 Growth of Financial Derivatives in India
- 1.4 The regulatory framework of Derivatives trading in India

### **2 Futures & Forwards**

**(12)**

- 2.1 Financial Futures: Contracts& Types
- 2.2 Future Market: Functions & Operators
- 2.3 Forward contracts: Concept, Features & Classifications
- 2.4 Future Vs Forwards
- 2.5 Pricing of Future and Forwards
- 2.6 Hedging strategies – hedging with Stock Index Futures, types of members & margining System in India
- 2.7 Futures trading on BSE & NSE

### **3 Options Market& Pricing**

**(12)**

- 3.1 Options: Meaning, Need, Terminology, Valuation
- 3.2 Options v/s Futures
- 3.3 Types of Options contracts – Call & Put options, Covered & Uncovered options
- 3.4 Trading Strategies involving Options – basic Option Positions – margins – Options on stock indices
- 3.5 Option markets in India on BSE & NSE
- 3.6 Intrinsic value & Time value, Pricing at Expiration
- 3.7 Factors affecting Options pricing, Put-Call Parity Pricing Relationship
- 3.8 Pricing models – Introduction to Binomial Pricing model, Black Scholes Option Pricing model

### **4 Swaps**

**(06)**

- 4.1 Swaps: Concepts, Nature, Evolution, Features &Structure of Swaps
- 4.2 Types – Interest-rate Swaps, Currency Swaps, Commodity Swaps, Equity Swaps
- 4.3 Swap variant, Swap Dealer Role
- 4.4 Economic Functions of Swap transactions.

### **5 Hedging &Credit Derivatives**

**(10)**

- 5.1 Concept
- 5.2 Fixed Hedging with options - concepts
- 5.3 Naked & covered Positions
- 5.4 Strategies
- 5.5 Hedging option Portfolio
- 5.6 Credit Derivatives: Concept, feature, growth, Benefits & Credit derivatives in India

#### REFERENCE BOOKS:

1. Financial Derivatives: Theory concepts & problems – S.L.Gupta – Prantice Hall India
2. Derivatives And Risk Management, 2/E Srivastava Oxford University Press
3. Options, Futures & Other Derivatives - Hull C John – Pearson Educations Publishers
4. Derivatives And Risk Management - JayanthVerma- Tata Mcgraw Hill
5. Futures Markets: theory & practice” – Sunil K Parmeswaran – Tata McGraw Hill.
6. Financial Derivatives – Bishnupriya Mishra ,Swaroop – Excel Books
7. Risk Management: insurance & derivatives – Kotreshwar - Himalaya
8. Derivatives Valuation & Risk Management – David Thomas, Dubofsky Miller - Oxford Publication
9. Financial Derivatives – An introduction to Futures, Forwards, & Options – Read Head – Prentice Hall of India
10. Derivatives – T.V.Somnathan - Tata McGraw Hill.
11. Financial Derivative & Risk Management – O.P.Agrawal – Himalaya Publication
12. Risk Management & Insurance Arunajatesan Macmillan



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

## Paper: 406-A International Financial Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives of the course:

- To study the international environment in which the business operates
- To understand Exchange rate mechanism as well as international accounting practices

### **1. Fundamental of International Management (06)**

- 1.1 International finance: Importance, goals, features, & Scope
- 1.2 Domestic Vs International finance
- 1.3 Emerging challenges & Responsibilities of finance Manager

### **2. Exchange Rate Mechanism (26)**

- 2.1 Structure/ Features of Foreign Exchange Market.
- 2.2 Exchange Rate (08)
  - 2.2.1 Forex reserves
  - 2.2.2 Exchange rate theories
  - 2.2.3 Currency future quotes
  - 2.2.4 Speculations
  - 2.2.5 Hedging
  - 2.2.6 International Parity
    - 2.2.6.1 Exchange Rate Determination
    - 2.2.6.2 Factor Affecting Exchange Rate
    - 2.2.6.3 Balance of Payment & Purchasing Power Parity (PPP) theory of Exchange.
    - 2.2.6.4 Real Exchange Rate & Real Effective Exchange Rate
    - 2.2.6.5 Interest Rate & Exchange Rate
    - 2.2.6.6 Covered Interest Rate & Interest Rate Parity, Forward Rate Parity
    - 2.2.6.7 The Fischer Effect
    - 2.2.6.8 Exchange Rate Forecasting
- 2.3 Foreign Exchange Markets (05)
  - 2.3.1 International Swap Market
    - 2.3.1.1 Currency Swap
    - 2.3.1.2 Fixed rate Currency Swap
    - 2.3.1.3 Swap Risk
- 2.4 Global Financial Derivatives Market (03)
  - 2.4.1 Structure of Derivatives Market
  - 2.4.2 Credit Default Swap
  - 2.4.3 VaR methodology and Analysis
- 2.5 Financial Integration (02)
- 2.6 Foreign Exchange Market in India (02)
- 2.7 Arbitrage- Two Point & Triangular Arbitrage (01)
- 2.8 Forward & future spot rate (02)
- 2.9 International Transaction Mechanism (03)
  - 2.9.1 Nostro, Vostro and Loro Account,
  - 2.9.2 SWIFT, CHIP, CHAP, Telegraphic Transaction (IT)



### **3. International Accounting**

**(06)**

- 3.1 Consolidation of Financial Statements & its analysis
- 3.2 Accounting of Inflationary trends
- 3.3 IFRS
- 3.4 Transfer pricing
- 3.5 Financing of foreign trade
  - 3.5.1 Documentation
  - 3.5.2 Modes of Payment
  - 3.5.3 Methods of Financing
  - 3.5.4 EXIM Bank

### **4. International Monetary system**

**(04)**

- 4.1 International Monetary Fund (IMF)
  - 4.1.1 Constitution, Role & Responsibility of IMF
  - 4.1.2 Funding facilities, International liquidity
  - 4.1.3 Special Drawing Rights (SDR)
  - 4.1.4 Role in Post Bretton Woods world
- 4.2 Convertibility & Currency

### **5. Balance of Payment**

**(06)**

- 5.1 India's Balance of Payment
- 5.2 Importance, Functions, Principles & Components of Balance of Payment
- 5.3 Accounting of Balance of Payment: Deficit & Surplus
- 5.4 Elasticity approach Vs Absorption Approach
- 5.5 General Equilibrium approach
- 5.6 Balance of Payment Vs Exchange Rate
- g) Balance of Payment and Money Supply

#### **REFERENCE BOOKS:**

1. International Financial Management by V.K. Bhalla – Anmol Publications
2. International Financial Management by P. G. Apte, Tata McGrawHill
3. International Financial Management by ThumulariSiddaiah (IFM) Pearson
4. International finance Marketing by V.A Avadhani – Himalaya Publication
5. International Finance Management by vyuplesh saran – Prentice Hall
6. International Finance Management by Cheol S. Eun & Bruce G Resnick , Tata McGraw Hill
7. International Finance Management by MadhuVij – Excel Books
8. International Financial Management Jain Macmillan



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

**SEMESTER: IV**

## **Paper: 407 A – Case Studies in Financial Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

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### **Objectives :**

To depict thorough knowledge of the subject and develop decision making abilities

The student has to Select and discuss the case studies related to paper no. 105, 205, 207 and respective specialization papers no. 304, 305, 306, 307, 405, 406 those will have impact on business decision making in each paper.

## Specialization –B – Marketing Management



### North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

#### FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

#### 405 B – Marketing Research and Business Analytics

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- The purpose of this course is to cultivate research skills in students and a beginning practitioner. The focus will be on qualitative (exploratory) and quantitative research execution and the application of research findings and analysis in decision making.
- The course is geared toward the practical application of research, though gaining a working knowledge of certain terminology will be important.

#### 1. Introduction

(06)

- 1.1. Marketing research: Meaning, Scope, Purpose, Uses, Limitations and Threats to Marketing Research
- 1.2. Marketing Research and Marketing Management
- 1.3. Business research and its application vis-à-vis marketing
- 1.4. Marketing research process
- 1.5. Marketing Intelligence system:
- 1.6. Concept, Components, Scope, Significance
- 1.7. MIS and Marketing Decision Support System (MDSS)
- 1.8. Ethics in Marketing Research

#### 2. Data Collection

(08)

- 2.1. Use of internet for primary data
- 2.2. Locating and Evaluating Secondary data
- 2.3. Measurement & Scaling
- 2.4. Concept of Measurement & Scaling
- 2.5. Types of measurement scales- Comparative, Non comparative
- 2.6. Attitude measurement scales, Attribute measurement scales
- 2.7. Questionnaire design & construction

#### 3. Market Survey as a method of Data Collection

(12)

- 3.1. Market survey: Nature, Meaning and Objectives of Market survey
- 3.2. Types of Market survey
- 3.3. Field work: Conducting a Survey
- 3.4. Conducting Consumer Perception survey
- 3.5. Conducting Consumer Satisfaction survey
- 3.6. Conducting Concept Testing survey
- 3.7. Preparation of Report based on the conducted survey

#### **4. Data Analysis Techniques and Interpretation**

**(12)**

- 4.1. Regression Analysis,
- 4.2. Factor Analysis,
- 4.3. Cluster Analysis,
- 4.4. Discriminant Analysis,
- 4.5. Conjoint Analysis,
- 4.6. Multi-Dimensional Analysis
- 4.7. The Interrelationship between Analysis and Interpretation
- 4.8. Improper interpretation
- 4.9. Improper Analysis
- 4.10. The interpretative process

#### **5. Specific Research Applications**

**(10)**

- 5.1. Test Marketing
- 5.2. Advertisement Research: Promotion Research, Brand Equity Research, Brand Name testing
- 5.3. Industrial Marketing Research
- 5.4. Export Marketing Research
- 5.5. Sales Analysis forecasting
- 5.6. Pricing Research
- 5.7. Consumer Behavior Research
- 5.8. Rural Marketing

6. **Live Project 1:** *Students should visit any marketing organizations and conduct the any one of mentioned in 3<sup>rd</sup> unit & unit 5<sup>th</sup> surveys and prepare a survey report.*

7. **Live Project 2:** *As mentioned in live project 1, students should enter the data in SPSS or MS Excel to test the above mentioned multivariate data analysis techniques.*

#### **REFERENCE BOOKS**

1. Market research - G.C. Beri – Tata McGraw Hill
2. Marketing Research – Naresh Malhotra – Pearson
3. Marketing Research-Rajendra Nargundkar – Tata McGraw Hill
4. Marketing Research by S L Gupta – Excel Books
5. Marketing Research – Suja Nair – Himalaya
6. Marketing Research – Burns and Bush – Pearson
7. Marketing Research – Luck and Rubin – Prentice Hall Publications
8. Marketing Research, Concept & Cases – Cooper Schindler. – Tata McGraw Hill
9. Research for Marketing Decisions – Paul Green, Donald Tull, Gerald Albourn - Prentice Hall Publications
10. Marketing Research by Ramanuj Majumdar –New age International
11. Marketing Research by D.M. Sarawte – Everest
12. Marketing Research by Shajahan –Macmillan



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

### Paper: 406 B - Retail Management And Digital Marketing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To develop understanding about the retail sector and its current requirements
- To highlight the new trends of using technology and equip students to handle such developments in markets and marketing practices.

#### 1. Retailing: (6)

- 1.1. Concept
- 1.2. Importance
- 1.3. Functions
- 1.4. Indian Vs. Global Scenario

#### 2. Retail format and retail locations (6)

- 2.1. Store and non-store retailing
- 2.2. Franchising
- 2.3. Unconventional channels

#### 3. Merchandising: (8)

- 3.1. Concept, Importance, Functions
- 3.2. Steps in **merchandising** planning .
- 3.3. Category management: Definition and process
- 3.4. Introduction to Private label brands

#### 4. Principles and Drivers of New Marketing Environment - Digital Media: (10)

- 4.1. Industry - Reaching Audience Through Digital Channels
- 4.2. Traditional and Digital Marketing
- 4.3. Introduction to Online Marketing Environment
- 4.4. Dotcom Evolution and Internet Relationships
- 4.5. Integrating E-Business to an Existing Business Model
- 4.6. Online Marketing Mix
- 4.7. Digital Signage

#### 5. Internet Enabled Retailing (8)

- 5.1. Turning Experience Goods into Search Goods
- 5.2. Personalization through Mass Customization
- 5.3. Choice Assistance
- 5.4. Personalized Messaging
- 5.5. Selling through Online Intermediaries
- 5.6. Direct to Customer Interaction - Online Channel Design for B2C and B2B Marketing.

**6. Integrating Online Communication into IMC Process - Online Advertising (10)**

- 6.1. Email Marketing and Viral Marketing
- 6.2. Affiliate Marketing - Participatory
- 6.3. Communication Networks - Social Media Communities
- 6.4. Consumer Engagement
- 6.5. Networks - Customer – Led Marketing Campaigns
- 6.6. Legal and Ethical aspects related to Digital Marketing.

**Reference Books**

- 1. Retailing Management – Swapna Pradhan
- 2. Retail Management- Berman, Evans; Pearson
- 3. Retail Management Suja Nair- himalaya
- 4. Strauss Judy, E-Marketing, Prentice Hall, India



# **North Maharashtra University, Jalgaon**

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

**New Syllabus: M.B.A.**

**SEMESTER: IV**

**Paper: 407 B: Case studies in Marketing**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

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## **Objectives:**

- To enhance analytical skills of students

The student has to select and discuss the case studies related to paper no 204 and respective specialization papers no 304, 305, 306, 307, 405, 406, those will have impact on business decision making in each paper

## Specialization – C – Human Resource Management



### North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

#### 405 C – Performance & Compensation Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives:

- To study different performance parameters in organisation.
- To study Performance Management Process.
- To understand compensation structure in organisation.

#### Performance Management-

##### 1. Introduction-

(07)

- 1.1. Meaning, Definition and Purpose of Performance Management
- 1.2. Standards of Performance and Guidelines to set Performance Standards
- 1.3. Determinants of Performance
- 1.4. Approaches to Measure Performance
- 1.5. Characteristics of Ideal Performance System
- 1.6. Disadvantages of Poorly Implemented Performance System

##### 2. Performance Management Process-

(04)

- 2.1. Performance Planning
- 2.2. Performance Execution
- 2.3. Performance Assessment
- 2.4. Performance Review
- 2.5. Renewal & Re-contracting

##### 3. Team Performance Management-

(05)

- 3.1. Definition, Importance & Need of Teams
- 3.2. Types of Teams
- 3.3. Purposes and Challenges of Team Performance Management
- 3.4. Rewarding Team Performance
- 3.5. Techniques/Measures to enhance Team Performance

#### Compensation Management-

##### 4. Introduction-

(08)

- 4.1. Meaning, Concept, Objectives & Types of Compensation
- 4.2. Compensation Management Process
- 4.3. Determining Compensation: Wage Mix
- 4.4. Job Evaluation-Concept, Objectives, Principles and Methods/Techniques
- 4.5. Managerial/Executive Compensation

##### 5. Wages & Salary Administration-

(10)

- 5.1. Concept and Kinds of Wages
- 5.2. Objectives of Sound Wage Policy
- 5.3. Principles of Wages and Salary Administration
- 5.4. Wage Determinants
- 5.5. Wage Boards
- 5.6. Wage Differentials-



- 5.7. Concept, Rationale of Wage Differentials
- 5.8. Types of Wage Differential-Pay for Performance, Pay for Knowledge and Skills, Competency Based Pay
- 5.9. Methods of Wage Payments
- 5.10. Components of Wage Structure in India
- 6. **Incentives & Fringe Benefits** (08)
  - 6.1. **Incentives-**
    - 6.1.1. Meaning, Need and Types of Incentives
    - 6.1.2. Individual & Group Incentive Plans
  - 6.2. **Fringe Benefits-**
    - 6.2.1. Meaning, Need, Objectives & Types
    - 6.2.2. Advantages and Disadvantages of Fringe Benefits

- \* Some Important Factors in Wage Administration MBA-HR Students must aware about- (06)**
- i. Income Tax Calculations on Salaries/TDS and e-Return Filing
  - ii. Preparation of Salary Sheet
  - iii. Provident Fund Calculations
  - iv. Bonus Calculations
  - v. Gratuity Calculations
  - vi. Retirement Calculations
  - vii. Calculations of all above things on MS-Excel

*\* Faculties are expected to take efforts on these points to improve Skills and Knowledge of students about subject. The above calculations are not expected in Exam Paper.*

#### Reference Books

1. Performance Management – Kohli - Oxford University Press
2. Performance Management by Herman Aguinis.- Pearson
3. Compensation Management An Indian Perspective 2e –Bhattacharyya -Oxford University Press
4. Performance Management-Chadha, Macmillan
5. Compensation by Milkovich, Newman, VenkataRatnam – Tata McGraw Hill (SiE)
6. Essentials of Human Resource Management By P. SubbaRao – Himalaya Publishing
7. Human Resource Management By Snell, Bohalender - Cengage Learning
8. Human Resource Management-Pande & Basak, Pearson
9. Human Resource Management- Gary Dessler & Biju Varkkey - Pearson Prentice Hall
10. Human Resource Management by S. S. Khanka – S. Chand & Sons



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

## 406 C – International Human Resource Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives:

- To study HRM practices in International Environment
- To compare domestic HRM practices w.r.to International context
- To get indepth knowledge on Repatriation

- 1. Introduction To (IHRM) International Human Resource Management (10)**
  - 1.1. IHRM: Definition,
  - 1.2. Internationalization & HRM
  - 1.3. Domestic Vs International HRM
  - 1.4. Growing interest in IHRM
  - 1.5. Functional positioning of IHRM
  - 1.6. Organizational context of IHRM
  - 1.7. International Division of Labour
  - 1.8. Barriers to effective Global HRM
- 2. Social and Cultural Context of IHRM (08)**
  - 2.1. Culture & Cultural Sensitivity
  - 2.2. Social Environment
  - 2.3. Religions and Economic Implications
  - 2.4. Multiculturalism
  - 2.5. Cultural Predisposition
  - 2.6. Cultural Dimensions
  - 2.7. Managing across culture
- 3. International Joint Ventures (08)**
  - 3.1. Concept & Nature of International Joint Venture
  - 3.2. Motives & Extent of Merger & Acquisitions
  - 3.3. HRM factors in IJV
  - 3.4. Role & impact of Culture in International Joint Venture
  - 3.5. Methods of Overcoming Cultural & other Problems in IJV
- 4. Human Resource Practices in International environment (10)**
  - 4.1. Global HR Planning
  - 4.2. Recruitment and Selection in International Context
    - 4.2.1. Company Motive
    - 4.2.2. Individual Motive
    - 4.2.3. Recruitment Methods
    - 4.2.4. Selection Criterion & Techniques
  - 4.3. Emerging trends in training for competitive advantage
  - 4.4. Developing staff through International assignment
  - 4.5. Women Expatriates -The Glass Ceiling Phenomenon
- 5. International Industrial Relations (07)**
  - 5.1. Key Issues in International IR
  - 5.2. Trade Union & International IR
  - 5.3. IR policy of MNC's

5.4. MNC's Characteristic in Neutralizing the power of Labour Unions

5.5. MNC's Strategy towards International IR

**6. Repatriation**

**(07)**

6.1. Concept of Repatriation

6.2. Benefits from returnees

6.3. Challenges of Re-entry

6.3.1. Individual Perspective

6.3.2. Organisational Perspective

6.4. Repatriation Process

6.5. Managing repatriation

**REFERENCE BOOKS:**

1. International Human Resource Management by K. Ashwathappa – Tata McGraw Hill
2. Introduction to International Human Resource Management, 5/E by Crawley, Oxford University Press
3. International Human Resource Management by Tony Edwards & Chris Rees.- Pearson
4. International Human Resource Management by Peter Dowling & Denise Welch – Cengage Learning
5. International Human Resource Management by Sengupta, Bhattacharya – Excel Books
6. International Human Resource Management By P. SubbaRao – Himalaya Publication
7. International Human Resource Management by P L Rao – Excel Books
8. International Human Resource Management (2/e) by Gupta -Macmillan



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

## Paper: 407 C – Cases in Human Resource Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

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### Objective:

1. To Increase the understanding of what managers should and should not do in guiding a business to success.
2. To identify strategic issues that need to be addressed, evaluating strategic alternatives, and formulating workable plans of action.
3. To gain in-depth exposure to different industries and companies, thereby acquiring something close to actual business experience.

The student has to Select and discuss the case studies related to paper no. 104, 106, 206, and respective specialization papers no. 304, 305, 306, 307, 404, 405 those will have impact on business decision making in each paper.

To solve the case studies following steps may be considered –

### Steps to solve case Study

1. Fact/ Summary
2. Problem Identification
3. Assumptions (if Any)
4. Analysis of problems
5. Alternate Solution
6. Feasibility of solution
7. Best (optimum) Solution
8. Action/Implementation Plan

# Specialization –D – Operations Management



**North Maharashtra University, Jalgaon**

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

## **405 D –Industrial & Productivity Management**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 50 hours**

### **Objectives :-**

- 1) To study work study work management to improve productivity of organization.
- 2) To study measurement of work of labour & optimal utilization of plant & equipment to decrease waste, scrape.

### **1) Introduction to Industrial Engineering and Management (06)**

- a) Indian Industry
- b) Stages of Scientific & Technological Revolution
- c) Growth of Indian Manufacturing Industry
- d) New Industrial Policy
- e) Major Areas of Indian Industry
- f) Globalization of Indian industry

### **2) Work Study (06)**

- a) Definition, concept, need and advantages of Work Study
- b) Objectives of Method Study
- c) Procedure/steps of Method Study
- d) Recording Techniques
- e) Micro-motion study and Therbligs
- f) SIMO Chart
- g) Principles of motion economy

### **3) Work Measurement (08)**

- a) Concepts of Work measurement and its objectives
- b) Techniques and uses of work measurement
- c) Time Study and Methods of timing
- d) Work Sampling
- e) Predetermined motion time & Systems (PMTS)
- f) Method Time Measurement (MTM)
- g) Work factor
- h) Use of Motion Time Tables
- i) Ergonomics

### **4) Productivity (08)**

- a) Concept, Importance & Benefits of Productivity
- b) Productivity & Production
- c) Measurement of productivity
- d) Productivity Index
- e) Means of increasing productivity
- f) Productivity improvement procedure

- g) Six lines of Attack to improve Productivity
- h) Productivity & Standard of Living

**5) Waste Scrap & Disposal Management (08)**

- a) Types & Cost of wastages
- b) Causes and Remedies of wastage
- c) Wastage of resources and preventive steps
- d) Wastage control Programme and Salvage operation
- e) Scrap Disposal and Surplus

**6) Constraint Management (12)**

- a) Managing constraints across the organization
- b) Theory of Constraints (TOC)
  - i) Measuring capacity, utilization & Performance
  - ii) Principles of TOC
- c) Identification & Management of Bottleneck
- d) Product mix decisions using bottlenecks
- e) Economies of scale
- f) Capacity timing & Sizing strategies
- g) Procedure for long term capacity Decisions
  - i) Estimate capacity Requirement
  - ii) Identify Gaps
  - iii) Develop Alternatives
  - iv) Evaluate alternatives

**REFERENCE BOOKS:**

- 1) Industrial Engineering and Production Management by M. Mahajan, DhanpatRai and Sons.
- 2) Operations Management by Krajewski, Ritzman, Malhotra - Pearson
- 3) Industrial Engineering and Management by O.P. Khanna, DhanpatRai and Sons.
- 4) Industrial and Business Management by MartandTelsang, S. Chand
- 5) Purchasing and Supply Management- Donald Dobler and David Burt-Tata McGraw Hill
- 6) Materials Management by P Gopalkrishnan and M Sundaresan- Tata McGraw Hill
- 7) Materials Management – Rajendra Mishra – Excel Bookss
- 8) Purchasing and Materials Management-NK Nair-Vikas
- 9) Operations &Materials Management by K. ShridharBhat –HPH
- 10) Production and Operations Management – Chary - Tata McGraw Hill



**North Maharashtra University, Jalgaon**

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**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: III**

**Paper: 406 D – International Quality Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 50 hours**

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- |           |   |             |
|-----------|---|-------------|
| <b>1)</b> | <b>Foundations of Quality Management</b>  | <b>(10)</b> |
|           | <ul style="list-style-type: none"><li>a) Quality: Meaning, Definition, Importance, Dimension, Types, Benefits<ul style="list-style-type: none"><li>i) Five views of Quality</li><li>ii) Quality &amp; Competitive advantage</li><li>iii) Quality &amp; Profitability</li><li>iv) Quality as a source of value</li></ul></li><li>b) Quality Management: Principles,<ul style="list-style-type: none"><li>i) Traditional Vs. Modern Quality Management</li><li>ii) Strategic Quality Management</li></ul></li><li>c) Total Quality Management (TQM) : Meaning, Scope &amp; Elements<ul style="list-style-type: none"><li>i) TQM Vs. Traditional Management Practices</li></ul></li><li>d) Deming's Quality Principles</li></ul> |             |
| <b>2)</b> | <b>Administrative systems for Quality Management</b>  | <b>(10)</b> |
|           | <ul style="list-style-type: none"><li>a. The Fork model for quality management- The Handle</li><li>b. The Fork model for quality management- The Neck</li><li>c. The Fork model for quality management- Daily Management</li><li>d. The Fork model for quality management- Cross-functional Management</li><li>e. Resource requirements of the detailed fork model</li></ul>  |             |
| <b>3)</b> | <b>ISO series of Standards</b>  | <b>(08)</b> |
|           | <ul style="list-style-type: none"><li>a. ISO 9000-2000 system</li><li>b. ISO 9001-2000 system</li><li>c. ISO 9004-2000 system</li><li>d. ISO 14000 Series</li><li>e. QS 9000 Series</li></ul>   |             |
| <b>4)</b> | <b>Total Quality Management</b>   | <b>(06)</b> |
|           | <ul style="list-style-type: none"><li>a. TQMEX model</li><li>b. Japanese 5-S practice</li><li>c. Quality control circles</li><li>d. Business process Re-engineering</li></ul>   |             |
| <b>5)</b> | <b>Six Sigma Management</b>   | <b>(08)</b> |
|           | <ul style="list-style-type: none"><li>a. Concept, Six Sigma Terminology</li><li>b. DMAIC Model</li><li>c. Benefits and Costs of Six Sigma Management</li><li>d. Six Sigma Roles and Responsibilities</li></ul>  |             |
| <b>6)</b> | <b>Kaizen</b>   | <b>(06)</b> |
|           | <ul style="list-style-type: none"><li>a. Concept</li><li>b. Kaizen versus innovation</li><li>c. Kaizen and Management</li><li>d. Companywide Quality control</li><li>e. Characteristics of Companywide Quality control</li><li>f. Kaizen Strategy and Practice</li></ul>  |             |

- 1) Total Quality Management- Poornima Charantimath, Pearson Education
- 2) Quality Management by Howard Gitlow, Alan J, Rosa O, David Levine, Mcgraw-Hill, 3<sup>rd</sup> Edition
- 3) Total Quality Management - ShridharBhat - Himalaya Publishing House
- 4) Total Quality Management- Besterfield, Pearson Education
- 5) Total Quality Management- S.D. Bagade, Himalaya Publishing House
- 6) Total Quality Management – Shailendra Nigam – Excel Books
- 7) Total Quality Management - ShridharBhat- Himalaya Publishing House





**North Maharashtra University, Jalgaon**

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**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: III**

**Paper: 407 D – Case study**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 50 hours**

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**Objective:**

- To gain in-depth exposure to different industries and companies, thereby acquiring something close to actual business experience.

The student has to Select and discuss the case studies related to paper no. 105 and respective specialization papers no. 304, 305, 306, 307, 404, 405 those will have impact on business decision making in each paper.

# Specialization –E – International Business Management



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

### 405E-International Human Resource Management And Diversity Management

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective of the Course:

- To develop a sound conceptual framework for understanding International HRM.
- To get in-depth knowledge in Diversity Management.
- To be able to understand management of global teams.

#### 1. INTRODUCTION: OVERVIEW

(4)

- 1.1. Concepts of international management
- 1.2. What is IHRM
- 1.3. Issues in IHRM
- 1.4. Barriers to effective Global HRM
- 1.5. Expanding the role of HRM in international firms
- 1.6. Domestic Versus International HRM

#### 2. INTERNATIONAL STRATEGIC HUMAN RESOURCE MANAGEMENT

(8)

- 2.1. Introduction
- 2.2. Peculiarities of Global Strategic Management
- 2.3. Value Creation
- 2.4. Global Strategic Management Process
- 2.5. MNC's Business Strategies and HRM Strategies
- 2.6. Formulation of Alternative Business Unit Level Strategies
- 2.7. Collaborative Strategies
- 2.8. Organizational and Human Resource Strategies

#### 3. INTERNATIONAL INDUSTRIAL RELATIONS

(8)

- 3.1. Introduction
- 3.2. Three Actors of Industrial Relations
- 3.3. Trade Unions
- 3.4. Concerns of Trade Unions in Multinational Companies
- 3.5. Collective Negotiations
- 3.6. Disputes/ Conflicts
- 3.7. Quality Circles and Participative Management

#### 4. MANAGING CULTURAL DIVERSITY

(10)

- 4.1. Introduction
- 4.2. Culture and its factors
- 4.3. Cross-cultural Differences in the Workplace
- 4.4. Workforce Diversity
- 4.5. Breaking the Glass-ceiling for Women and Minorities
- 4.6. Globalization and Mobility of Human Resources
- 4.7. Managing Diversity: Strengths and Weaknesses
- 4.8. Strategies for Managing Workforce Diversity

**5. MANAGING PEOPLE IN INTERNATIONAL CONTEXT****(8)**

- 5.1. Human Resource Management and Beyond
- 5.2. French Culture and people Management
- 5.3. The American Model of People Management
- 5.4. Japanese People Management
- 5.5. Chinese Model of People Management
- 5.6. Indian People Management

**6. LEADING AND MANAGING GLOBAL TEAMS****(10)**

- 6.1. Cross-Cultural misperceptions, misinterpretation and misevaluation
- 6.2. Managing expatriates effectively, equitably and ethically
- 6.3. Managing multicultural workforce
- 6.4. Domestic multiculturalism
- 6.5. Teams: the organization in microcosm
- 6.6. Types of diversity in teams
- 6.7. Cultural diversity's impact on teams
- 6.8. Conditions of high-performing multicultural teams
- 6.9. Managing culturally diverse teams

**REFERENCE BOOKS:**

- 1. International Human Resource Management by K. Ashwathappa – Tata McGraw Hill
- 2. Introduction to International Human Resource Management, 5/E by Crawley, Oxford University Press
- 3. International Human Resource Management by P L Rao – Excel Books
- 4. International Human Resource Management By P. SubbaRao – Himalaya Publication
- 5. International Human Resource Management by Tony Edwards & Chris Rees.- Pearson
- 6. International Human Resource Management by Peter Dowling &Denice Welch – Cengage Learning
- 7. International Human Resource Management by Sengupta, Bhattacharya – Excel Books
- 8. International Human Resource Management (2/e) by Gupta -Macmillan



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

## **406E-International Marketing Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

### **Objective of the Course:**

1. To develop a sound conceptual framework for understanding International Marketing management practices.
2. To get in-depth knowledge in International Marketing Mix Strategies.
3. To be able to understand Export Management.

### **1. Introduction to International marketing.**

- 1.1. International Market.
- 1.2. International Marketing.
- 1.3. International orientation and stages.
- 1.4. International Market orientation.
- 1.5. International Marketing environment; External & Internal environment. International trading environment, trading blocs
- 1.6. International market entry strategies.

### **2. International Product strategy.**

- 2.1. Hierarchy of product, Product design strategy.
- 2.2. Product life cycle management.
- 2.3. Product planning for global markets.
- 2.4. Standardization vs. Adaptation.
- 2.5. Packaging and labeling.

### **3. International Pricing strategy.**

- 3.1. Role of Pricing, Factors affecting Pricing.
- 3.2. Pricing strategies – cost based, Transfer pricing, Dumping, Skimming price, penetration price, price discounts.
- 3.3. Price market relationship, Price escalation, cost of exporting, Taxes, tariffs, exchange rate.
- 3.4. Price control: Approaches to lessening price escalation, leasing in international markets.

### **4. International Promotion strategy.**

- 4.1. Promotion decisions: complexities and issues, International advertising.
- 4.2. Marketing environment & Promotional strategies.
- 4.3. Role of export promotion organizations, Trade fairs and exhibitions.
- 4.4. International marketing communication mix.

### **5. International Distribution.**

- 5.1. International distribution channels, types of channels.
- 5.2. International channel conflict and channel decisions.
- 5.3. Distribution planning and functional excellence.
- 5.4. International logistics management and strategy.

### **6. Export Management.**

- 6.1. Export procedure and documentation.
- 6.2. Managing export decisions.
- 6.3. Export contracts; risk coverage.
- 6.4. Exit policy.
- 6.5. Limitations of International marketing.

#### REFERENCE BOOKS:

1. International Marketing, R.M.Joshi, OUP
2. Global Marketing Management, K. Lee, OUP
3. International Marketing-Cateora.
4. Managing International Marketing –Varkey.
5. Creating Market across the Globe: Strategies for business excellence – Korwar
6. Essence of International Marketing –Stan Paliwoda.
7. Global Marketing Management-Warren J. Keegan.
8. International Marketing Management-Subhash Jain.
9. International Marketing Micheal- R Czinkota, Ilkka A Ronkainen
10. International Marketing, R.M. Joshi



# **North Maharashtra University, Jalgaon**

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

**Paper:407 E–Cases in International Business Management**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

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## **Objective:**

- To be able to understand & solve case studies in International Business Management.

The student has to Select and discuss the case studies related to respective specialization papers no. 304E, 305E, 306E, 307E, 404E, and 405E those will have impact on business decision making in each paper.

## Specialization –F – Agro Business Management



### North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

#### 405 F- RURAL DEVELOPMENT

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives

- To understand the basic concept regarding rural development.
- To create awareness about various schemes and programs which are helpful for rural development.

#### 1. Rural Development (7)

- 1.1. Concept and Basic Elements of Rural Development
- 1.2. Nature & Scope of Rural Development
- 1.3. Importance of Rural Development
- 1.4. Objectives of Rural Development

#### 2. Approaches and Determinants of Rural Development (8)

- 2.1. Community Development Programmes
- 2.2. Intensive Agricultural District Programme
- 2.3. Concept of Integration
- 2.4. Changes in the utilization of natural resources
- 2.5. Changes in employment, an increase in Capital.

#### 3. Rural Development Special Schemes and policies (7)

- 3.1. Stress on special schemes
- 3.2. Limitations of special schemes
- 3.3. Strengthening special schemes
- 3.4. Need and Goals of rural development policy
- 3.5. Rural development policy in India

#### 4. Employment Generation Programs (10)

- 4.1. Characteristics of Rural Employment
- 4.2. Measures needed for employment generation
- 4.3. Incidence of rural unemployment
- 4.4. Crash scheme for Rural Development
- 4.5. Pilot Intensive Rural Employment projects
- 4.6. Antyodaya
- 4.7. Employment Guarantee scheme
- 4.8. Jawahar Rojgar Yojana

#### 5. Role of Banking and Finance in Rural Development (8)

- 5.1. Role of Cooperative and Commercial Banking in Rural sector
- 5.2. NABARD, its Schemes & Patterns
- 5.3. Role of Self-Help Groups in rural development
- 5.4. The role of foreign investment

#### 6. Rural Development Administration and Panchayati Raj Institution (8)

- 6.1. Functions of Panchayati Raj System
- 6.2. Merits & demerits of Panchayati Raj System
- 6.3. Strengthening the Panchayati Raj System
- 6.4. Rural Development Administration

#### Reference Books:

1. Rural Development by – Dr. I. Satya Sundaram, Himalaya Publishing House
2. Rural Development and Planning in India – Devendra Thakur, Deep & Deep Publications, New Delhi
3. Rural Industrialization in India – Shrinivas Thakur – Streling Publishess, New Delhi
4. Dynamics of Rural Development Power Structure – S.N. Chandhary – Amar Prakashan, New Delhi.
5. Integrated Rural Development Programme in India: Policy & Administration – A.K.Shrivastva – Deep &Deep Publications, New Delhi.
6. Integrated Rural Development – R.C. Arora – S. Chand Sons, New Delhi
7. Rural Development, Principles, policies and management- Katar Singh, Sage Publication





# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

## 406 F- Agro entrepreneurship and Project Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

### Objectives

- 1) To understand the basic concepts of entrepreneurship and project management
- 2) To aware learners towards agro entrepreneurship.
- 3) To provide proper guidance to set a particular agro based project.

### 1. Rural Entrepreneurship (8)

- 1.1. Concept of rural entrepreneurship
- 1.2. Aims of rural entrepreneurship
- 1.3. Opportunities and barriers to entrepreneurship in rural India
- 1.4. Policies Governing Entrepreneurship

### 2. Skill Development, ICT and rural entrepreneurship (10)

- 2.1. Skills required for entrepreneurship
- 2.2. Rural applicability
- 2.3. Government training programs for skill development
- 2.4. Rural ICT initiatives
- 2.5. Role of ICT in changing rural India
- 2.6. Need to create rural ICT entrepreneurs

### 3. Introduction to Project Management (10)

- 3.1. Searching for a Business Idea
- 3.2. Project Identification and Project formulation
- 3.3. Project Analysis, Project Risk
- 3.4. Project Planning, Project Design and Network Analysis
- 3.5. Project Report, Project Appraisal
- 3.6. Location of an Enterprise, Factory Design and Layout

### 4. Project Finance and Financial Analysis (10)

- 4.1. Source of Development of Finance, Project Financing
- 4.2. Financial Analysis, Funds flow analysis
- 4.3. Ratio Analysis, Investment process
- 4.4. Break Even Analysis, Profitability analysis
- 4.5. Social Cost- Benefit Analysis, Budget and planning Process, Benchmarking
- 4.6. Role of various Government institutions for Promoting Agri. projects.

### 5. Project Reports (10)

- 5.1. Preparation of project reports for –
- 5.2. Milk and Milk Products
- 5.3. Live Stocks
- 5.4. Medicinal plants
- 5.5. Agro Tourism
- 5.6. Irrigation
- 5.7. Fertilizer /Pesticides
- 5.8. Floriculture and Horticulture

## Reference Books

1. Entrepreneurship Development- Theories and Practices- N.P.Singh
2. Project Management- Vasant Desai – Himalaya Publication
3. Management in Agricultural Finance.- Jain S.C.Vora and Company. Publishers Pvt. Ltd.  
Entrepreneurship and Technology- Vasant Desai
4. Agri-Business Management- Iwase Smita-Everest Publishing House
5. Agricultural Policy in India – Karla O.P. - Bombay Popular Prakashan Mumbai
6. Text Book of Animal Husbandry – Banerjee G.C.-Oxford & IBH Publisher New Delhi.
7. Rural and Agricultural Marketing –Pandey, Mukesh and Deepak Tiwari-International Book Distribution Co. New Delhi.
8. Organizing Rural Business Policy Planning and Management- Rajagopal-Sage Publication, New Delhi.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

## 407 F- Case Studies in Agri Business management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

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### Objective:

- To get knowledge regarding agribusiness concepts and process.

The Student has to select and discuss the case studies related to respective specialization papers no 304,305,306,307,404 and 405 those will have impact on business decision making in each paper.

# Specialization –G – Information Technology & Systems Management



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

**Paper: 405G: INTERNET TECHNOLOGY**

60 + 40 Pattern: External Marks 60 + Internal Marks (20 Marks Theory + 20 Marks Practical= 40 Marks)= Maximum Total Marks: 100

Required Lectures: 48 hours (32 Hours Theory + 18 Hours Practical)

### Objectives of the course:

- To understand Technical aspect of Internet Technology
- To learn Advanced web programming
- To gain the knowledge for building & customising your own web page

- 1. Introduction to Internet Technology** (5)
  - 1.1. Browser, Server, Client, ISP, Protocol, DNS, URL, WWW
  - 1.2. HTML Basics : HTML Page Block Diagram, Tags- Singular & Paired Tags, Attributes
  - 1.3. Simple & Dynamic Web pages.
- 2. Designing Web Page** (12)
  - 2.1. Block & Text Formatting Tags, Special Characters, Image tags
  - 2.2. Links – To a page, Within Page, To a Site.
  - 2.3. Links And Images – Image Mapping Layout
  - 2.4. List (OL, UL, DL)
  - 2.5. Tables- Frames (Nested, I Frame)
  - 2.6. Head Elements – Base Font, Meta Tags, Scripts, Styles
- 3. Cascading Style Sheet (CSS)** (5)
  - 3.1. Inline
  - 3.2. Embedded
  - 3.3. Sep. /External
  - 3.4. Transaction Effect (Marquee Tag)
- 4. VB Script** (15)
  - 4.1. Variables-Definition, Naming rules, Data types, Constant, Arrays, operator.
  - 4.2. VB Script Control Structure-Conditional, looping, branching
  - 4.3. VB Script built-in function, Typecasting variables, Math, date, String, Formatting -Function
- 5. ASP** (05)
  - 5.1. What are ASPs?
  - 5.2. Understanding Client – Server Model
  - 5.3. ASP versus Client side Scripting
  - 5.4. Setting PWs and/or IIS
  - 5.5. Dissecting your First ASP Script.
  - 5.6. Understanding ASP Script.
- 6. Database connectivity using ASP** (06)
  - 6.1. Using Database- Reading From a Database Using ASP
  - 6.2. Deleting Database records

### REFERENCE BOOKS:

1. The Complete Reference to HTML - Thomas Powell
2. Dynamic HTML for Dummies – Michael Hyman
3. ASP Developers Guide – Greg Vuczek
4. ASP in 21 Days – Scott Mitchell and James Atkinson
5. ASP 3.0 – A Beginner's Guide – Mercer
6. HTML - Beginner's Guide - Willart
7. Mastering ASP- Ivan Bayross

## Practical List

1. Create a web page to demonstrate text & block formatting tags.
2. Create a web page to demonstrate various list tags
3. Create a web page to demonstrate Image tags.
4. Create a web page to demonstrate different linking tags.
5. Demonstrate table tag with all attributes & values
6. Demonstrate frame and frameset tags
7. Demonstrate form tags & different element tags
8. Create a web page to demonstrate CSS(Internal & External).
9. Validate form controls using vb script function
10. Implement your own tags using XML



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

#### Paper: 406G: SOFTWARE PROJECT MANAGEMENT

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To provide basic project management skills with a strong emphasis on issues and problems associated with delivering successful IT projects.
- The module is designed to provide an understanding of the particular issues encountered in handling IT projects and to offer students methods, techniques and 'hands-on' experience in dealing with them. Upon completion of this module students will be able to undertake and be aware of aspects of project management.

#### 1. Introduction to Software Project Management (8)

Definition-Project, Importance of Software Project Management, Software Projects Vs Other Projects, Ways to Categorize Software Projects, Problem with S/W Projects, Requirement Specification & Management Control

#### 2. Project Planning (8)

Introduction, Select Project, Identify Project scope & objectives, Identify project infrastructure, Analyze Project Characteristics, Identify Project Products & Activities, Estimate effort for each activity, identify activity risk & Allocate Resources

#### 3. Programme Management & Project Evaluation (8)

Introduction, Programme management, Managing the allocation of resources within programmes, Strategic Programme Management, Aids to Programme Management, Evaluation of Individual Projects, Technical Assessment, Cost- Benefit Evaluating Techniques & risk Evaluation

#### 4. Selection of an appropriate project approach & Software Effort Estimation (8)

Project Selection Approach- Introduction, Choosing Technologies, Choice of Process Models, Structure Vs Speed Delivery, Waterfall Model, V-Model, Spiral Model, Software Prototyping, Managing iterative Processes

**Software Effort Estimation-** Introduction, Problems with over & under Estimates, the basis for Software estimating, Software Effort estimation Techniques, Expert Judgment, COCOMO- a parametric Model

#### 5. Project organization & Implementation (8)

Project organization- Organization Structures, Comparison of organizational structures in projects, Level of project organizations, Functional & project Managers Comparison

**Project Implementation-** Information Systems Project Success, Information Systems Project Failure, Information Technology Failure, Critical Success Factors, Reasons for Information System Project Failure, Quality Control in project Implementation, User involvement in Project Implementation, Integrated Requisitioning System

#### 6. Risk Management & Software Quality (8)

Risk Management- Introduction, Categories of Risk, Framework, risk identification, risk assessment, risk planning, risk management, evaluating risk to the schedule

Software Quality-Introduction, Software Quality in Project Planning, Importance of Software Quality, Practical Software Quality Measures, Product Vs Process Quality Management, External Standards, Techniques to help enhance software quality, Quality Plans

#### REFERENCE BOOKS:

1. Bob hughes & Mike Cotterell, "Software Project Management", Tata McGraw Hill, Fourth Edition
2. David L. Olson, "Introduction to Information Systems Project Management", McGRAW-HILL International Edition
3. Ramesh, Gopalaswamy, "Managing Global Projects", Tata McGraw Hill, 2001.
4. Royce, "Software Project Management", Pearson Education, 1999.
5. Jalote, "Software Project Management in Practice", Pearson Education, 2000



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

#### Paper: 407G : CYBER LAWS & CYBER SECURITY

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

#### Objectives:

- To understand the fundamentals of cyber security and cyber offenses, be familiar with cybercrime techniques and prevention through cyber laws, gain knowledge of cyber forensics and the security mechanisms.

#### 1. Introduction

(06)

- 1.1. Terminologies : cyberspace, cybercrime, cyber security, Cyber squatting, cyberpunk, cyber warfare, cyber terrorism
- 1.2. Cyber security needs
- 1.3. Cyber criminals : Introduction, Cybercriminals Groups
- 1.4. Classification of cyber crimes
- 1.5. Cybercrime categories
- 1.6. Cybercrime : The legal perspective

#### 2. Cyber offenses

(08)

- 2.1. Hackers, crackers, Freakers : Introduction
- 2.2. Planning cybercrime
- 2.3. Social engineering
- 2.4. Cyber stalking
- 2.5. Cyber cafe and cybercrime
- 2.6. Attack vector
- 2.7. Bot nets

#### 3. Cybercrime techniques

(10)

- 3.1 Proxy servers and Anonymizers, phishing
- 3.2 Password cracking
- 3.1. Key loggers and spywares
- 3.2. Virus and worms
- 3.3. Trojan horse and backdoors
- 3.4. Steganography
- 3.5. Dos and DDos attacks
- 3.6. SQL injection
- 3.7. Buffer overflow

#### 4. Phishing and Identity theft

(08)

- 4.1. Phishing : Introduction
- 4.2. Phishing methods : Dragnet, Rod-and-reel , Lobsterpot, Gillnet
- 4.3. Techniques of phishing
- 4.4. Phishing Toolkits and Spy Phishing
- 4.5. Phishing countermeasures
- 4.6. Personally Identifiable Information (PII)
- 4.7. Types of Identity theft
- 4.8. Techniques of Identity theft
- 4.9. Identity Theft Countermeasures

**5. Legal Perspective of Cyber security& Forensics fundamentals**

**(08)**

- 5.1. Need for cyber laws: The Indian context
- 5.2. Indian IT Act 2000
- 5.3. Changes made in IT Act 2000
- 5.4. Digital signatures and the Indian IT Act
- 5.5. Cybercrime and punishment
- 5.6. Cyber forensics : introduction, types
- 5.7. Needs of cyber forensics
- 5.8. Cyber forensics and digital evidence

**6. Cyber Security: Organization Implications**

**(08)**

- 6.1. Search Breach: PI Collecting by Organization, Insiders threats in Organization
- 6.2. Privacy Dimension
- 6.3. Key-challenges in Organization
- 6.4. Cost of cyber crimes and IPR issues
- 6.5. Organizational guidelines for Internet usage, safe computing guidelines and computer usage policy
- 6.6. Forensics best practices for organization

**REFERENCE BOOKS:**

1. Nina Godhbole, SunitBelapure Cyber Security understanding Cyber Crimes, Computer Forensics and Legal Perspectives, Wiley India
2. Marjie T. Britz Computer Forensics and Cyber Crime: An Introduction, Pearson
3. AlfaredBasta and Wolf Holten, Computer Security Concepts, Issues and Implementation, CENGAGE learning
4. Raghu Santanam, M. Sethumadhavan, MohitVirendraCyber Security, Cyber Crime and Cyber Forensics, IGI Global
5. George M. Mohay,Alison AndersonComputer and intrusion forensics, Artech House
6. G. Ram Kumar, Cyber Crimes-A primer on Internet Threats & Email Abuses,Viva Books



## Specialization – H – Retail Management



### North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: IV

### Paper: 405 H: International Retailing

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To get acquainted about emerging trends in global retailing in 21<sup>st</sup> century.
- To provide basic knowledge of International retailing, Global Markets along with problems.
- To study the role of financial management in International marketing.

- 1. International Marketing (8)**
  - 1.1. Concept, Importance, Need of International Marketing
  - 1.2. International Marketing Research and Information system
  - 1.3. Problems in International Marketing
  - 1.4. EPRG Orientation
  - 1.5. International Retailing in 21<sup>st</sup> century
- 2. Internationalization of Retailing (8)**
  - 2.1. Internationalization of Retailing-Need, Scope
  - 2.2. Evolution of International Retailing
  - 2.3. FDI in retailing
  - 2.4. Drivers of International Retailing
  - 2.5. Live Exercise- Students should observe recent trends in Retailing along with FDI followed by group discussion in class room.
- 3. Global Retail Markets (8)**
  - 3.1. Strategic planning process for global retailing
  - 3.2. Challenges facing by global retailers,
  - 3.3. Challenges & Threats in global retailing,
  - 3.4. Factors affecting the success of a global retailing strategy
  - 3.5. Innovative emerging trends in global retailing
  - 3.6. A study of US and Asian Markets
- 4. Selection of International Retail Market (6)**
  - 4.1. Need to select International retail market
  - 4.2. Study and analysis of retailing in global arena/setting
  - 4.3. Different methods of international retailing
  - 4.4. Different modes of market entry for international retailers
- 5. Competing in Foreign Market (5)**
  - 5.1. Multi country competition and global competition
  - 5.2. Competitive advantages in foreign market
  - 5.3. Cross market subsidization
  - 5.4. Global Structure
  - 5.5. International retail marketing mix- concept & importance
  - 5.6. Managing brand at international level

- |  |            |
|--|------------|
| <b>6. Competing in Foreign Market II</b>                                   | <b>(5)</b> |
| 6.1. Global issues in Supply chain Management: Forces behind globalization |            |
| 6.2. World class SCM   |            |
| 6.3. World class demand management (WCDM)                                  |            |
| 6.4. World class logistics management (WCLM)                               |            |
| <b>7. Financial Management in International Retailing</b>                  | <b>(8)</b> |
| 7.1. Importance of financial management in international retailing         |            |
| 7.2. Financial performances and Financial strategy                         |            |
| 7.3. Strategic Cost Management   |            |
| 7.4. Accounting Methods  |            |
| 7.5. Strategic Profit Model  |            |
| 7.6. Financial ratios in Retailing   |            |

#### REFERENCE BOOKS:

1. Retail Management: Arif Shaikh and Kaneez Fatima, Himalaya Publishing
2. Retailing Management: Suja Nair, Himalaya Publishing
3. Retail Management: Swapna Pradhan, Tata Mc Graw Hill
4. The art of Retailing- A.J.Lamba, Tata McGraw Hill Education
5. Retail Management-A Strategic Approach: Berry Berman & J.R.Evans, Prentice Hall of India, New Delhi
6. Retail Management: S.L.Gupta, Wisdom Publications
7. Managing the Supply Chain-the definitive Guide-David Simchi Levi, Philip Kaminsky and Edith Simchi Levi, Tata Mc-Graw Hill, 2004
8. World Class Supply Management: The key to SCM- Burt, Dobler and Starling, Tata McGraw Hill, Seventh Edition, 2006.
9. High performance interactive marketing- Christopher Ryan, Viva Books Ltd, 2003.



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

### SEMESTER: IV

#### Paper: 406 H: Information Technology in Retail Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objective:

- To understand the role of Information technology in retail management.
- To get acquainted about Enterprise Resource Planning and E Commerce.
- To provide knowledge of E-retailing, Online Shopping, Mobile shopping etc.

- 1. Retail Management & Information System** (8)
  - 1.1. Role of IT in business
  - 1.2. Importance of IT in retail
  - 1.3. The need for product identification
  - 1.4. Factors affecting the use of IT in Retail
  - 1.5. Radio frequency Identification (RFID) - Concept and applications in retailing.
- 2. Application of IT and its areas for impact** (8)
  - 2.1. Adopting coding system
  - 2.2. Inventory control
  - 2.3. Sales analysis and point of sales,
  - 2.4. Sales forecasting
  - 2.5. Collaborative planning forecasting replenishment (CPFR)
- 3. Essential requirement of Information System** (6)
  - 3.1. Ease of creation
  - 3.2. Inventory level
  - 3.3. EDI: Electronic data interchange
  - 3.4. Database Management
- 4. Enterprise Resource Planning** (6)
  - 4.1. Implementing ERP solutions
  - 4.2. Need and Benefits of ERP
  - 4.3. Use of ERP: Globalization and Retail Market
- 5. New trends in IT Application in Retailing** (8)
  - 5.1. Web enable system and Data mining tools
  - 5.2. LAN and WAN strategies
  - 5.3. Interactive kiosks
  - 5.4. Efficiency in operation and merchandise
- 6. E-retailing and Use of IT** (12)
  - 6.1. How firms are using the Internet to expand their markets
  - 6.2. E-retailing-concepts, growing importance in 21<sup>st</sup> century
  - 6.3. Interactive home shopping
  - 6.4. Mobile shopping: Apps, Smart cards, e-cash,
  - 6.5. Retailing through television : Asian sky shop
  - 6.6. Online shopping: Shopping carts e.g. e-bay, Amazon, Flip cart etc.
  - 6.7. Strategies for E-commerce
  - 6.8. Limitations to the web applications
  - 6.9. Live Exercise –Students may visit personally or may observe any retail Supermarket on Internet which provides online services to customers followed by group discussion in classroom.

#### REFERENCE BOOKS:

1. Retail Management: Arif Shaikh and Kaneez Fatima, Himalaya Publishing
2. Retailing Management: Suja Nair, Himalaya Publishing
3. Retail Management: Swapna Pradhan, Tata Mc. Graw Hill
4. The art of Retailing- A.J.Lamba, Tata McGraw Hill Education
5. Retail Management-A Strategic Approach: Berry Berman & J.R.Evans, Prentice Hall of India, New Delhi
6. Retail Management: S.L.Gupta, Wisdom Publications
7. Enterprise Resource Planning-



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

## **Paper: 407 H: Cases in Retail Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

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### **Objectives:**

- To provide a foundation for an understanding of the various dimensions of Retail Management along with problems through case studies.

The student has to Select and discuss the case studies related to respective specialization papers no. 304-H , 305 H, 306 H, 307 H, 405 H, 406 H, those will have impact on business decision making in each paper:

While solving case study students may use following steps-

- Summary of the case
- Problem Identification
- Analysis of Problem
- Alternative Solution
- Best Solution



## **North Maharashtra University, Jalgaon**

(NACC Accredited 'B' Grade University)

### **FACULTY OF COMMERCE & MANAGEMENT**

**New Syllabus: M.B.A.**

**SEMESTER: III**

#### **405 I: Food & Beverage Management**

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### **Objective:**

- To study food & Beverage operations in hospitality industry
- To study how to develop Consumer product relationship
- To study production of food & beverages services.

- |   |           |
|---|-----------|
| <b>1. Food &amp; Beverage Operations and Management:</b>        | <b>08</b> |
| 1.1. Food and Beverage operations.                              |           |
| 1.2. The Hospitality industry and its Products.                 |           |
| 1.3. The Business environment.                                  |           |
| 1.4. The Legal framework.                                       |           |
| 1.5. Setting organizational goals & objectives.                 |           |
| 1.6. Quality in the management of Food & Beverage operations.   |           |
| <b>2. Developing the Consumer - Product Relationship.</b>       | <b>08</b> |
| 2.1. Framework for developing a consumer- Product relationship. |           |
| 2.2. Market Research.   |           |
| 2.3. Market segmentation.                                       |           |
| 2.4. Idea evaluation.   |           |
| 2.5. Concept development.                                       |           |
| 2.6. Product development.                                       |           |
| <b>3. Food Production.</b>                                      | <b>08</b> |
| 3.1. Menu Planning.   |           |
| 3.2. Health & Safety.   |           |
| 3.3. Centralized food production systems.                       |           |
| 3.4. Volume in food production.                                 |           |
| 3.5. Purchasing & Control.                                      |           |
| 3.6. Operations control.  |           |
| <b>4. Beverage Provisions.</b>                                  | <b>08</b> |
| 4.1. Compiling Wine and Drinks list                             |           |
| 4.2. Pricing of Wines and Drinks                                |           |
| 4.3. Purchasing   |           |
| 4.4. Storage and cellar management                              |           |
| 4.5. Beverage control.  |           |

**5. Operational Areas Equipment & Staffing:**

**08**

- 5.1. Food production areas
- 5.2. Food production equipments
- 5.3. Food and Beverage service areas
- 5.4. Food and Beverage service equipment
- 5.5. Automatic vending
- 5.6. Staffing

**6. Food and Beverage service:**

**08**

- 6.1. Food and Beverage service as two systems
- 6.2. Customer relations
- 6.3. Managing volume
- 6.4. Sales promotion and merchandising
- 6.5. Managing and service sequence
- 6.6. Revenue control

**Reference Books**

- 1. Food and Beverage Management - By John Cousins, David Coskett. [Pearson Education India](#).
- 2. Food and Beverage Management By Anupam Mukherji by Gyan publishing house – New Delhi.
- 3. The SAGE Handbook of Hospitality Management edited by Roy C Wood, Bob Brotherto.
- 4. Food and Beverage Management By Bernard Davis, Andrew Lockwood, Ioannis Pantelidis, Peter Alcott published By Routledge – UK
- 5. Food and Beverage Service by R. Singaravelavan- Oxford



# North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

## FACULTY OF COMMERCE & MANAGEMENT

New Syllabus: M.B.A.

SEMESTER: III

### 406 I: Event Management

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 48 hours

#### Objectives

- To study different things needed to organize an event
- How to plan, organize, manage & Marketing an Event
- To study necessary steps to organize conference

#### 1. Introduction to Event and Event Management

(08)

- 1.1. Introduction & Definition of Event,
- 1.2. Need of Event Management,
- 1.3. Objectives of Event Management,
- 1.4. Events and Event Management,
- 1.5. Types of event & event management,
- 1.6. 5 C's of Event,
- 1.7. Growing importance of events in India.
- 1.8. Role of event management companies,
- 1.9. managing customer expectations,
- 1.10. Challenges in Event management

#### 2. Event Planning & Team Management

(08)

- 2.1. Introduction, Establish Objectives,
- 2.2. Preparing event proposal,
- 2.3. Use of planning tools.
- 2.4. Principles of event management planning,
- 2.5. important steps in planning & designing an Event,
- 2.6. importance of creativity in event planning, Event feasibility,
- 2.7. coordinating technical resources, Site inspection.
- 2.8. Protocols, Dress codes,
- 2.9. staging, importance of staffing,
- 2.10. managing human resources,
- 2.11. Leadership, Traits and characteristics

#### 3. Event Marketing

(10)

- 3.1. Introduction, Importance of event marketing,
- 3.2. five P's of Event marketing: Product, Price, Place, Promotion, Public relation.
- 3.3. Image, Branding,
- 3.4. Market Research,
- 3.5. Relationship Building,
- 3.6. Preparing press releases and press packs,
- 3.7. Internet event marketing,
- 3.8. Use of social media for event marketing.



- |   |             |
|---|-------------|
| <b>4. Event Safety and Security</b>                   | <b>(06)</b> |
| 4.1. Introduction, Security,                          |             |
| 4.2. occupational safety,                             |             |
| 4.3. crowd management,                                |             |
| 4.4. major risks and emergency planning,              |             |
| 4.5. reporting of incidences, measures for emergency  |             |
| <b>5. Organizing the Conference</b>                   | <b>(08)</b> |
| 5.1. Introduction, venue confirmation,                |             |
| 5.2. Making the bookings, speaker selection,          |             |
| 5.3. conference budgeting,                            |             |
| 5.4. conference marketing strategies,                 |             |
| 5.5. audio visual requirements, risk analysis,        |             |
| 5.6. attendee evaluation.                             |             |
| <b>6. Planning a Wedding Event</b>                    | <b>(08)</b> |
| 6.1. Introduction, wedding planning,                  |             |
| 6.2. venue selection and liaison,                     |             |
| 6.3. client briefings, budgeting,                     |             |
| 6.4. list of guests and invitations,                  |             |
| 6.5. list of gifts,                                   |             |
| 6.6. Menus and catering services,                     |             |
| 6.7. flowers , table decorations, transportation etc. |             |

#### References

1. Event Marketing and Management: Gaur, Sanjaya Singh, Vikas Publishing House Pvt Ltd, 2003
2. Marketing Management: Philip Kotler, Prentice Hall of India Pvt Ltd, 11 th edition,
3. Event Planning and Management: Sharma, Diwakar, Deep & Deep Publication Pvt Ltd, 2005.
4. Events Management: Raj, Razaq, SAGE Publication India Pvt Ltd, 2009
5. Event Marketing: Leonard H Hoyle, 2013 (ISBN 8126524679),
6. Event Management: Bhavana Chaudhari, Dr Hoshi Bhiwandiwalla, - Nirali Publications, Pune.

7.



## North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

**FACULTY OF COMMERCE & MANAGEMENT**

New Syllabus: M.B.A.

**SEMESTER: IV**

### **407 I–Cases in Hospitality Management**

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

**Required Lectures: 48 hours**

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#### **Objective:**

- To be able to understand & solve case studies in the context of Hospitality Management.

The student has to Select and discuss the case studies related to respective specialization papers no. 304J, 305J, 306J, 307J, 405J, and 406J those will have impact on business decision making in each paper.



**Shram Sadhana Bombay Trust's**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B ++ (2.91) NAAC Accredited**

**DEPARTMENT OF APPLIED SCIENCE**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019-20 (Term – I)**

| Sr. No. | Name of the Faculty Member | Class | Name of the Course              | TH in Hrs. + Tut | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|-------|---------------------------------|------------------|----------------|----------------|---------------|---------------|
|         |                            |       |                                 |                  | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1.      | Dr. K. S. Patil            | FE    | Physics (F)                     | 3+2              | 2              | 3              | 6             | 11            |
| 2.      | Dr. S. S. Patil            | FE    | Mathematics-I (A,F)             | 6+2              | --             | --             | 8             | 13            |
|         |                            | SE    | Mathematics-III (COMP-A)        | 3+2              | -              | --             | 5             |               |
| 3.      | Ms. M. V. Deshpande        | FE    | Mathematics-I (C,H)             | 6+2              |                |                | 8             | 13            |
|         |                            | SE    | Mathematics-III (COMP-B)        | 3+2              |                |                | 5             |               |
| 4.      | Mr. C. U. Nikam            | FE    | Physics (G,I)                   | 5+2              | 2              | 5              | 10            | 17            |
| 5.      | Ms. D. I. Desai            | FE    | Chemistry (E)                   | 3+1              | 2              | 4              | 8             | 12            |
| 6.      | Mr. M. B. Patil            | FE    | Physics (H,I)                   | 5+2              | 2              | 5              | 10            | 17            |
| 7.      | Mr. A. R. Mali             | FE    | Chemistry (A)                   | 3+3              | 2              | 2              | 4             | 10            |
| 8.      | Mr. U. T. Patil            | FE    | Chemistry (C)                   | 3+2              | 2              | 3              | 6             | 11            |
| 9.      | Dr. A. V. Khambayat        | FE    | Mathematics-I (E)               | 3+1              | --             | --             | 4             | 12            |
|         |                            | SE    | Mathematics-III (Electrical,IT) | 6+2              |                |                | 08            |               |
| 10.     | Mr. Pandhari Bagul         | FE    | Mathematics-I (G)               | 3+2              | --             | --             | 5             | 10            |
|         |                            | SE    | Mathematics-III (ETC)           | 3+2              | --             | --             | 05            |               |
| 11.     | Ms. K. Kulkarni            | FE    | Mathematics-I (Tut)             | 7                | --             | --             | 7             | 9             |
|         |                            | SE    | Mathematics-III                 | 2(T)             | --             | --             | 02            |               |
| 12.     | Ms. Tanuja Chouhan         | FE    | English (C)                     | 3                | 2              | 6              | 12            | 15            |
| 13.     | Ms. Reema Adakmol          | FE    | English (A,E)                   | 6                | 2              | 3              | 6             | 12            |

Head of the Department



**Shram Sadhana Bombay Trust's**  
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 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B ++ (2.91) NAAC Accredited**

**DEPARTMENT OF APPLIED SCIENCE**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019-20 (Term – II)**

| Sr. No. | Name of the Faculty Member | Class | Name of the Course        | TH in Hrs. + Tut | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|-------|---------------------------|------------------|----------------|----------------|---------------|---------------|
|         |                            |       |                           |                  | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1.      | Dr. K. S. Patil            | FE    | Physics (E)               | 3+2              | 2              | 3              | 6             | 11            |
| 2.      | Dr. S. S. Patil            | FE    | Mathematics-II (A,F)      | 6+2              | --             | --             | 8             | 12            |
|         |                            | SE    | Mathematics-III (Civil-A) | 3+1              | -              | --             | 4             |               |
| 3.      | Ms. M. V. Deshpande        | FE    | Mathematics-II (C,H)      | 6+2              |                |                | 8             | 13            |
|         |                            | SE    | Mathematics-II (Mech-A)   | 3+2              |                |                | 5             |               |
| 4.      | Mr. C. U. Nikam            | FE    | Physics (C)               | 3+3              | 2              | 3              | 6             | 12            |
| 5.      | Ms. D. I. Desai            | FE    | Chemistry (G)             | 3+2              | 2              | 5              | 10            | 15            |
| 6.      | Mr. M. B. Patil            | FE    | Physics (E)               | 3+1              | 2              | 4              | 8             | 12            |
| 7.      | Mr. A. R. Mali             | FE    | Chemistry (F)             | 3+2              | 2              | 5              | 10            | 15            |
| 8.      | Mr. U. T. Patil            | FE    | Chemistry (H,I)           | 6+4              | 2              | 2              | 4             | 14            |
| 9.      | Dr. A. V. Khambayat        | FE    | Mathematics-II (E)        | 3+1              | --             | --             | 4             | 13            |
|         |                            |       | Mathematics-II (Mech-B)   | 3+2              |                |                | 5             |               |
|         |                            | SE    | Biostat                   | 3+ 1             | --             | --             | 4             |               |
| 10.     | Mr. Pandhari Bagul         | FE    | Mathematics-II (G)        | 3+2              | --             | --             | 5             | 9             |
|         |                            | SE    | Mathematics-III (Civil-B) | 3+1              | --             | --             | 4             |               |
| 11.     | Ms. K. Kulkarni            | FE    | Mathematics-II (I)        | 3+6              | --             | --             | 9             | 11            |
|         |                            | SE    | Mathematics-III           | 2(T)             | --             | --             | 02            |               |
| 12.     | Ms. Tanuja Chouhan         | FE    | English (G,I)             | 6                | 2              | 6              | 12            | 18            |
| 13.     | Ms. Reema Adakmol          | FE    | English (F,H)             | 6                | 2              | 6              | 12            | 18            |

Head of the Department

**Department of Biotechnology, COET, Bambhori, Jalgaon.**

COET/DBT/     /     /2019

Date: 14/07/2019

To,  
The Principal,  
COET, Bambhori, Jalgaon.

**Subject: - Submission of Teaching load for Term-I 2019-2020**

**Respected Sir,**

Please find enclosure here with the Teaching load distribution for Term – I and Teaching load of Term –I of Biotechnology department for the academic year 2019-2020.

Thanking you.

Yours faithfully,

Dr. V.R. Diware  
HOD, Biotech

**TEACHING LOAD DISTRIBUTION**  
**ACADEMIC YEAR: 2019-2020 (TERM –I)**

| SN          | NAME                  | DESIGNATION     | YEAR | SUBJECT                        | TH (Hrs) | PR BATCH X (Hrs) | TOTAL |
|-------------|-----------------------|-----------------|------|--------------------------------|----------|------------------|-------|
| 1           | Mrs. S.S. Pawar       | Assistant Prof. | BE   | BPED                           | 03       | --               | 21    |
|             |                       |                 | TE   | RE                             | 03       | 02*02            |       |
|             |                       |                 | SE   | Bpcals                         | 03       | -                |       |
|             |                       |                 | TE   | Minor Project-I                | --       | 06               |       |
|             |                       |                 | BE   | Project-I                      | --       | 02               |       |
| 2           | Mr. Jayant P.P        | Assistant Prof. | TE   | ENZY                           | 03       | --               | 19    |
|             |                       |                 | BE   | DSP                            | 03       | 02               |       |
|             |                       |                 | BE   | Int. D. Elective               | 03       | --               |       |
|             |                       |                 | TE   | Minor Project-I                | --       | 06               |       |
|             |                       |                 | BE   | Project-I                      |          | 02               |       |
| 3           | Mr. Gaurav Khodape    | Assistant Prof. | SE   | BIEM                           | 03       | --               | 19    |
|             |                       |                 | TE   | PEC-I (FB)                     | 03       | --               |       |
|             |                       |                 | BE   | Bio. info.                     | 03       | 02               |       |
|             |                       |                 | TE   | Minor Project-I                | --       | 06               |       |
|             |                       |                 | BE   | Project-I                      | --       | 02               |       |
| 4           | Miss. Ashwini Patil   | Assistant Prof. | SE   | GMP                            | --       | 02               | 16    |
|             |                       |                 | TE   | Mol bio                        | 03       | 02*02            |       |
|             |                       |                 | BE   | Ele- I(FB)                     | 03       | 02               |       |
|             |                       |                 | BE   | Seminar-II                     | --       | 02               |       |
| 5           | Miss. Vrundavani Koli | Assistant Prof. | TE   | OEC-I (BAT)                    | 03       | --               | 16    |
|             |                       |                 | TE   | Lab PBT                        | --       | 02*02            |       |
|             |                       |                 | SE   | UO                             | 03       | 02*02            |       |
|             |                       |                 | BE   | Seminar-II                     | --       | 02               |       |
| 6           | Mrs. Sakina Husain    | Assistant Prof. | SE   | Biology(Mech+ Biotech+ Civil ) | 06+03    | 04               | 16    |
|             |                       |                 | SE   | GMP                            | 01       | 02               |       |
| 7           | Miss. Neeta Buva      | Assistant Prof. | SE   | Biology(Mech+ Biotech+ Civil ) | 06       | 05               | 18    |
|             |                       |                 | SE   | MB                             | 03       | 02*02            |       |
| TOTAL : 125 |                       |                 |      |                                |          |                  |       |

Theory Load: 58

Practical Load+ Tutorial Load : 39

Project &amp; Seminar Load: 28

Dr. V.R.Diware

HOD, Biotech

**TEACHING LOAD DISTRIBUTION**  
**ACADEMIC YEAR: 2019-2020 (Term II)**

Date: 13/12/2019

| SR.NO. | NAME                      | DESIGNATION     | CLASS | SUBJECT                     | TH<br>(Hrs) | PR<br>BATCH<br>X<br>(Hrs) | TOTAL |
|--------|---------------------------|-----------------|-------|-----------------------------|-------------|---------------------------|-------|
| 1      | Mrs. S. S. Pawar          | Assistant Prof. | SE    | PHT                         | 03          | 02                        | 18    |
|        |                           |                 | TE    | MT                          | 03          | 04                        |       |
|        |                           |                 | TE    | Minor Project               | --          | 06                        |       |
| 2      | Mr. Jayant P. Parpalliwar | Assistant Prof. | TE    | GENE                        | 03          | --                        | 18    |
|        |                           |                 | BE    | BPI                         | 03          | 02                        |       |
|        |                           |                 | BE    | Project-II                  | --          | 04                        |       |
|        |                           |                 | TE    | Minor Project               | --          | 06                        |       |
| 3      | Mr. Gaurav Khodape        | Assistant Prof  | SE    | IPR&E                       | 03          | --                        | 19    |
|        |                           |                 | TE    | BPE                         | 03          | --                        |       |
|        |                           |                 | BE    | BPMS                        | 03          | --                        |       |
|        |                           |                 | BE    | Project-II                  | --          | 04                        |       |
|        |                           |                 | TE    | Minor Project               | --          | 06                        |       |
| 4      | Mrs. Sakina Husain        | Assistant Prof. | SE    | BCH                         | 03          | 04                        | 15    |
|        |                           |                 | SE    | Bio Comp                    | 03          | 01(T)                     |       |
|        |                           |                 | SE    | Bio Comp                    | 03          | 01(T)                     |       |
|        |                           |                 |       |                             |             |                           |       |
| 5      | Miss. Ashwini Patil       | Assistant Prof. | BE    | Ele –II (PBT)               | 03          | 02                        | 17    |
|        |                           |                 | TE    | OEC-II(BIA)                 | 03          | --                        |       |
|        |                           |                 | TE    | BPE                         | --          | 04                        |       |
|        |                           |                 | SE    | IMMU                        | 03          | 02                        |       |
| 6      | Miss. Neeta Buwa          | Assistant Prof. | SE    | Bio ( EnTc n Chem)          | 03          | 01(T)                     | 16    |
|        |                           |                 | SE    | Bio (Ele)                   | 03          | 01(T)                     |       |
|        |                           |                 | SE    | Bio (IT)                    | 03          | 01(T)                     |       |
|        |                           |                 | SE    | Environmental Biotechnology | --          | 02                        |       |
|        |                           |                 | SE    | IMMU                        | --          | 02                        |       |
| 7      | X1                        | Assistant Prof. | TE    | PEC-II                      | 03          | --                        | 17    |
|        |                           |                 | BE    | ELE-III (BAT)               | 03          | --                        |       |
|        |                           |                 | TE    | GENE                        | --          | 04                        |       |
|        |                           |                 | BE    | BPMS                        | --          | 02                        |       |
|        |                           |                 | SE    | Environmental Biotechnology | 01          | 02                        |       |
|        |                           |                 | SE    | PHT                         | --          | 02                        |       |
| Total  |                           |                 |       |                             |             |                           | 120   |

Total load:

TH: 55

PR: 60

Tut : 05

**Dr. V.R.Diware**  
**(HOD, BIOTECH DEPT)**

Copy to : 1.Principal  
2. D.O.A  
3. Applied Science







*Shram Sadhana Bombay Trust's*  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B++ (2.91) NAAC Accredited**

**DEPARTMENT OF CHEMICAL ENGINEERING**  
**TEACHING LOAD DISTRIBUTION**  
 Academic Year 2019 – 20 (Term – I)

| Sr. No.    | Name of the Faculty Member | Class | Name of the Course      | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|------------|----------------------------|-------|-------------------------|------------|----------------|----------------|---------------|---------------|
|            |                            |       |                         |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1          | Dr. K.S.WANI               | T.E.  | CRE-I                   | 3          | --             | --             | --            | 3             |
| 2          | Dr. V.R.DIWARE             | B.E.  | CRE-II                  | 3          | 2              | 1              | 2             | 18            |
|            |                            |       | PROJECT & Seminar       | --         | 2              | 2              | 4             |               |
|            |                            | T.E.  | PED (PCE - I)           | 3          | --             | --             | --            |               |
|            |                            |       | Minor Project Stage - I | --         | 6              | --             | 6             |               |
| 3          | Dr. S.A.THAKUR             | B.E.  | PDC                     | 3          | --             | --             | --            | 18            |
|            |                            |       | PROJECT & Seminar       | --         | 2              | 2              | 4             |               |
|            |                            | T.E.  | MT-I                    | 3          | 2              | 1              | 2             |               |
|            |                            |       | Minor Project Stage - I | --         | 6              | --             | 6             |               |
| 4          | V.P.SANGORE                | T.E.  | Minor Project Stage - I | --         | 6              | --             | 6             | 19            |
|            |                            | S.E.  | IC                      | 3          | 1(T)           | 2(T)           | 2             |               |
|            |                            |       | THD-I                   | 3          | 2              | 1              | 2             |               |
|            |                            |       | CE Lab-I                | 1          | 2              | 1              | 2             |               |
| 5          | Dr. N.Y.GHARE              | B.E.  | TP                      | 3          | --             | --             | --            | 19            |
|            |                            |       | EE( Int. Disci)         | 3          | --             | --             | --            |               |
|            |                            |       | PROJECT & Seminar       | --         | 2              | 2              | 4             |               |
|            |                            | T.E.  | PFPP                    | 3          | --             | --             | --            |               |
|            |                            |       | Minor Project Stage - I | --         | 6              | --             | 6             |               |
| 6          | PARVEZ ANSARI              | B.E.  | PCT                     | --         | 2              | 1              | 2             | 20            |
|            |                            |       | PDC                     | --         | 2              | 2              | 4             |               |
|            |                            | T.E.  | EE (OEC-I)              | 3          | --             | --             | --            |               |
|            |                            |       | CRE - I                 | --         | 2              | 2              | 4             |               |
|            |                            |       | MT- I                   | --         | 2              | 1              | 2             |               |
|            |                            | S.E.  | IOM                     | 3          | --             | --             | --            |               |
|            |                            |       | THD-I                   | --         | 2              | 1              | 2             |               |
| 7          | Ms.P.G.THAKARE             | B.E.  | PCT Elective I          | 3          | --             | --             | --            | 20            |
|            |                            |       | CRE-II                  | --         | 2              | 1              | 2             |               |
|            |                            |       | PCT                     | --         | 2              | 1              | 2             |               |
|            |                            | T.E.  | CE Lab-III              | --         | 2              | 2              | 4             |               |
|            |                            | S.E.  | FM                      | 3          | 2              | 2              | 4             |               |
|            |                            |       | CE Lab-I                | --         | 2              | 1              | 2             |               |
| Total Load |                            |       |                         |            |                |                |               | 117           |

\* Engineering & Solid Mechanics teaching load (3 Hours) at S.E. Chemical will be taken by Civil Engineering Department

Head of the Department



*Shrama Sadhana Bombay Trust's*  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
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**Grade B++ (2.91) NAAC Accredited**

**DEPARTMENT OF CHEMICAL ENGINEERING**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – II)**

| Sr. No.    | Name of the Faculty Member | Class | Name of the Course | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|------------|----------------------------|-------|--------------------|------------|----------------|----------------|---------------|---------------|
|            |                            |       |                    |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1          | Dr. K.S.WANI               | T.E.  | AES (OEC-II)       | 3          | --             | --             | --            | 03            |
| 2          | Dr. V.R.DIWARE             | B.E.  | CPDPE              | 3          | --             | --             | --            | 18            |
|            |                            |       | PROJECT            | --         | 4              | --             | 4             |               |
|            |                            | T.E.  | CRE-II             | 3          | 2              | 1              | 2             |               |
|            |                            |       | Minor Project      | --         | 6              | --             | 6             |               |
| 3          | Dr. S.A.THAKUR             | B.E.  | Elective III PU    | 3          | --             | --             | --            | 16            |
|            |                            |       | PROJECT            | --         | 4              | --             | 4             |               |
|            |                            | T.E.  | Minor Project      | --         | 6              | --             | 6             |               |
|            |                            | S.E.  | PME                | 3          | --             | --             | --            |               |
| 4          | V.P.SANGORE                | T.E.  | IIA (PEC-II)       | 3          | --             | --             | --            | 21            |
|            |                            |       | Minor Project      | --         | 6              | --             | 6             |               |
|            |                            | S.E.  | MS                 | 3          | 2              | 2              | 4             |               |
|            |                            |       | CEL- II            | 1          | 2              | 2              | 4             |               |
| 5          | Dr. N.Y.GHARE              | B.E.  | PROJECT            | --         | 4              | --             | 4             | 18            |
|            |                            | T.E.  | MT-II              | 3          | 2              | 1              | 2             |               |
|            |                            |       | Minor Project      | --         | 6              | --             | 6             |               |
|            |                            | S.E.  | MEBC               | 3          | --             | --             | --            |               |
| 6          | P.G.THAKARE                | B.E.  | Elective II IPC    | 3          | 2              | 2              | 4             | 20            |
|            |                            |       | CAPEDMS            | --         | 2              | 2              | 4             |               |
|            |                            | T.E.  | HT                 | 3          | 2              | 2              | 4             |               |
|            |                            |       | MT-II              | --         | 2              | 1              | 2             |               |
| 7          | PARVEZ ANSARI              | B.E   | CAPEDMS            | 3          | --             | --             | 3             | 20            |
|            |                            |       | CPDPE              | --         | 2              | 2              | 4             |               |
|            |                            | T.E.  | THD - II           | 3          | 2              | 2              | 4             |               |
|            |                            |       | MEBC               |            | 2              | 2              | 4             |               |
|            |                            |       | CRE – II           | --         | 2              | 1              | 2             |               |
| Total Load |                            |       |                    |            |                |                |               | 116           |

Head of the Department

**DEPARTMENT –CIVIL ENGINEERING**

| Year<br>Course<br>Semester | Subject  | Load pattern per week           |                          |                   |     | No.of<br>Batches          | Total Equivalent<br>load per week |                        |     | Total work<br>load |
|----------------------------|--|---------------------------------|--------------------------|-------------------|-----|---------------------------|-----------------------------------|------------------------|-----|--------------------|
|                            |  | Th                              | Pr                       | Drg               | Tut |                           | Th                                | Pr                     | Drg |                    |
|                            |  |                                 |                          |                   |     |                           |                                   |                        |     |                    |
| SemI<br>SE<br>(Civil)      | SUR&G<br>ICE<br>ESE<br>BIOLOGY<br>MTE-I                            | 3X2<br>3X2<br>3X2<br>3X2<br>1X2 | 2<br><br><br><br>2       | <br><br><br><br>  | 2   | 8<br><br><br><br>8        | 6<br>6<br>6<br>8<br>2             | 16<br><br><br><br>16   |     | 60                 |
| SemII<br>SE<br>(Civil)     | IFM<br>ISM<br>CACED<br>GEOLOGY<br>M-III<br>MTE-II                  | 3X2<br>3X2<br>3X2<br>1X2<br>3X2 | 2<br><br><br>2<br>2      | <br><br>2<br><br> | 2   | 8<br><br>8<br>8<br>8      | 6<br>6<br>6<br>2<br>8             | 16<br><br><br>16<br>16 | 16  | 92                 |
| SemI<br>TE<br>(Civil)      | CM<br>HDE<br>MOM<br>GTE<br>APCT<br>DPPM<br>PROJECT STAGE I         | 3X2<br>3X2<br>3X2<br>3X2<br>3X2 | <br>2<br><br>2<br>2<br>6 | -<br><br><br><br> |     | <br>8<br><br>8<br>8<br>26 | 6<br>6<br>6<br>6<br>16<br>156     | 16<br><br>16<br><br>   |     | 234                |
| Sem-II<br>TE(Civil)        | SE<br>EE<br>TRE<br>PEC-II<br>OEC-II<br>MINOR PROJECT<br>INTERNSHIP | 3X2<br>3X2<br>3X2<br>3X2<br>3X2 | 2<br>2<br>2<br><br>6     | <br><br><br><br>  |     | 8<br>8<br>8<br><br>26     | 6<br>6<br>6<br>6<br>156           | 16<br>16<br>16<br><br> |     | 234                |

|                        |   |                                    |                           |   |  |                            |                       |                                |    |     |
|------------------------|---|------------------------------------|---------------------------|---|--|----------------------------|-----------------------|--------------------------------|----|-----|
| SemI<br>BE<br>(Civil)  | E&C<br>WRE-I<br>GTE-II<br>ELE-I<br>PROJECT-I<br>SEMINAR-II        | 3X2<br>3X2<br>3X2<br>3X2<br>2<br>2 | 2<br><br>2<br>2<br>2<br>2 |   |  | 8<br><br>8<br>8<br>35<br>- | 6<br>6<br>6<br>6      | 16<br><br>16<br>16<br>70<br>48 |    | 190 |
| SemII<br>BE<br>(Civil) | WRE-II<br>ELE-II<br>EE-II<br>ELE-III<br>PROJECT-II<br>IND.LECTURE | 3X2<br>3X2<br>3X2<br>3X2<br>1      | 2<br><br>2<br>4           | 2 |  | 8<br>8<br>8<br>35          | 6<br>6<br>6<br>6<br>1 | 16<br><br>16<br><br>140        | 16 | 213 |

LOAD DISTRIBUTION FOR CIVIL ENGG DEPARTMENT 2018-2019 SEM-I

| SR NO. | NAME           | CLASS | SUBJECT   | THEORY (Hr) | TUTORIAL (BATCHXHr) | PRACTICAL (BATCHXHr) | TOTAL LOAD |
|--------|----------------|-------|-----------|-------------|---------------------|----------------------|------------|
| 1.     | DR. M. HUSSAIN | TE    | EE-I      | 3           | -                   | -                    | 10         |
|        |                |       | INT ELE   | 3           |                     |                      |            |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 2.     | DR.S.L.PATIL   | SE    | SUR&G     | 6           | -                   | 3X2=6                | 16         |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 3.     | Dr.S .B.PAWAR  | BE    | ELE-I     | 3           | -                   | 2X2=4                | 15         |
|        |                |       | IE-I      |             |                     | 4                    |            |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 4.     | DR.P.A.SHIRULE | BE    | E&C       | 6           | -                   | 4X2=8                | 18         |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 5.     | F.I.CHAVAN     | SE    | ICE       | 3           |                     |                      | 18         |
|        |                | TE    | FM-II     | 3           |                     | 1X2=2                |            |
|        |                | SE    | MTE-I     |             |                     | 1X2=2                |            |
|        |                | TE    | IE-I      |             |                     | 1X2=2                |            |
|        |                | TE    | TOM-I     |             |                     | 1X2=2                |            |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 6.     | SONALI.B.PATIL | TE    | FM-II     | 3           |                     | 1X2=2                | 19         |
|        |                | TE    | EE-I      | 3           |                     | 2X2=4                |            |
|        |                | SE    | MTE-I     |             |                     | 1X2=2                |            |
|        |                | TE    | TOM-I     | 1           |                     |                      |            |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 7.     | JYOTI R. MALI  | TE    | SD-I      | 3           |                     | 3X2=6                | 18         |
|        |                | TE    | IE-I      | 3           |                     |                      |            |
|        |                |       | MTE-I     |             |                     | 1X2=2                |            |
|        |                |       | PRO & SEM |             |                     | 4                    |            |
| 8.     | J.N.KALE       | TE    | CM-I      | 6           |                     |                      | 18         |
|        |                | BE    | ELE-I     |             |                     | 3X2=6                |            |
|        |                | TE    | IE-I      |             |                     | 1X2=2                |            |
|        |                | BE    | PRO & SEM |             |                     | 4                    |            |
|        |                | SE    | SUR-I     |             |                     | 2X2=4                |            |

|    |                   |    |           |   |  |        |    |
|----|-------------------|----|-----------|---|--|--------|----|
| 9. | PANKAJ PUNASE     | TE | SD-I      | 3 |  | 4X2=8  | 20 |
|    |                   | TE | GTE-I     | 3 |  | 1X2=2  |    |
|    |                   |    | PRO & SEM |   |  | 4      |    |
| 10 | NIDHI JAIN        | BE | WRE-I     | 3 |  |        | 17 |
|    |                   | TE | IE-I      |   |  | 4X2=8  |    |
|    |                   | SE | SUR&G     |   |  | 3X2=6  |    |
| 11 | MAHESH KOLI       | SE | ESE       | 6 |  |        | 14 |
|    |                   |    | FM-II     |   |  | 4X2=8  |    |
| 12 | MADHURI MALPANI   | BE | WRE-I     | 3 |  |        | 17 |
|    |                   | TE | FM-II     |   |  | 2X2=4  |    |
|    |                   | TE | EE-I      |   |  | 4X2=8  |    |
|    |                   | BE | E&C       |   |  | 1X2=2  |    |
| 13 | BHUPENDRA PATIL   | SE | ICE       | 3 |  |        | 15 |
|    |                   | SE | MTE-I     | 2 |  | 3X2=6  |    |
|    |                   | TE | TOM-I     |   |  | 2X2=4  |    |
| 14 | SNEHA INGOLE      | BE | GTE-II    | 3 |  | 5X2=10 | 17 |
|    |                   |    | EE-I      |   |  | 2X2=4  |    |
| 15 | PRATIKSHA KANDARE | TE | IE-I      | 3 |  |        | 15 |
|    |                   | BE | E&C       |   |  | 3X2=6  |    |
|    |                   | BE | GTE-II    |   |  | 2X2=4  |    |
|    |                   | TE | SD-I      |   |  | 1X2=2  |    |
| 16 | POONAM BAVISKAR   | BE | ELE-I     | 3 |  | 2X2=4  | 18 |
|    |                   | TE | TOM-I     | 1 |  | 5X2=10 |    |

**LOAD DISTRIBUTION FOR CIVIL ENGG DEPARTMENT 2018-2019 SEM-II**

| SR NO. | NAME            | CLASS | SUBJECT        | THEORY (Hr) | TUTORIAL (BATCHXHr) | PRACTICAL (BATCHXHr) | TOTAL LOAD |
|--------|-----------------|-------|----------------|-------------|---------------------|----------------------|------------|
| 1.     | DR. M. HUSSAIN  | BE    | EE-II          | 8           |                     |                      | 16         |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
|        |                 | BE    | PRO-II         |             |                     | 4                    |            |
| 2.     | DR.S.L.PATIL    | SE    | GEOLOGY        | 2           |                     | 6X2=12               | 22         |
|        |                 | BE    | PRO-II         |             |                     | 4                    |            |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
| 3.     | DR.S.B.PAWAR    | BE    | IPC            | 3           |                     |                      | 17         |
|        |                 |       | WRE-II         |             |                     | 3X2=6                |            |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
|        |                 |       | PRO-II         |             |                     | 4                    |            |
| 4.     | DR. P.A.SHIRULE | BE    | ASD            | 6           |                     | 4X2=8                | 22         |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
|        |                 | BE    | PRO-II         |             |                     | 4                    |            |
| 5.     | F.I.CHAVAN      | BE    | WRE-II         | 1           |                     | 4X2=8                | 25         |
|        |                 | SE    | ISM            | 6           |                     |                      |            |
|        |                 |       | IFM            |             |                     | 1X2=2                |            |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
|        |                 | BE    | PRO-II         |             |                     | 4                    |            |
| 6.     | J.N.KALE        | TE    | CM-II          | 3           |                     |                      | 22         |
|        |                 | TE    | SD-II          | 3           |                     | 4X2=8                |            |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
|        |                 | BE    | PRO-II         |             |                     | 4                    |            |
| 7.     | SONALI.B.PATIL  | SE    | IFM            | 6           |                     | 1X2=2                | 22         |
|        |                 |       | EE-II          |             |                     | 3X2=6                |            |
|        |                 | TE    | MINOR PRO& SEM |             |                     | 4                    |            |
|        |                 | BE    | PRO-II         |             |                     | 4                    |            |
| 8.     | JYOTI R. MALI   | SE    | CACED          | 3           |                     |                      | 24         |
|        |                 | TE    | IE-II          | 3           |                     | 4X2=8                |            |

|    |                 |       |                 |   |  |        |    |
|----|-----------------|-------|-----------------|---|--|--------|----|
|    |                 |       | MTE-II          |   |  | 1X2=2  |    |
|    |                 | TE    | MINOR PRO& SEM  |   |  | 4      |    |
|    |                 | BE    | PRO-II          |   |  | 4      |    |
| 9. | PANKAJ PUNASE   | TE    | TOS-II          | 3 |  |        | 22 |
|    |                 | TE    | SD-II           | 3 |  | 4X2=8  |    |
|    |                 | TE    | MINOR PRO&SEM   |   |  | 4      |    |
|    |                 | BE    | PRO-II          |   |  | 4      |    |
| 10 | BHUPENDRA PATIL | SE    | CACED           | 3 |  | 3X2=6  | 19 |
|    |                 | BE    | WRE-II          | 2 |  |        |    |
|    |                 | SE    | MTE-II          |   |  | 2X2=4  |    |
|    |                 | TE    | MINOR PRO & SEM |   |  | 4      |    |
| 11 | POONAM BAVISKAR | TE    | IE-II           | 3 |  | 1X2=2  | 19 |
|    |                 | TE    | MTE-II          |   |  | 3X2=6  |    |
|    |                 | BE    | ASD             |   |  | 1X2=2  |    |
|    |                 | SE    | CACED           |   |  | 1X2=2  |    |
|    |                 | TE    | MINOR PRO & SEM |   |  | 4      |    |
| 12 | MADHURI MALPANI | BE    | WRE-II          | 3 |  |        | 22 |
|    |                 | SE    | CESGI           | 3 |  |        |    |
|    |                 | TE    | EE-II           |   |  | 5X2=10 |    |
|    |                 | TE    | IE-II           |   |  | 1X2=2  |    |
|    |                 | TE    | MINOR PRO & SEM |   |  | 4      |    |
| 13 | SNEHA INGOLE    | TE    | GTE-I           | 3 |  | 5X2=10 | 20 |
|    |                 | BE    | IPC             | 3 |  |        |    |
|    |                 | TE    | MINOR PRO & SEM |   |  | 4      |    |
|    |                 |       |                 |   |  |        |    |
| 14 | NIDHI JAIN      | TE    | TOS-II          | 3 |  |        | 22 |
|    |                 | TE    | GTE-I           | 3 |  | 3X2=6  |    |
|    |                 | BE    | ASD             |   |  | 3X2=6  |    |
|    |                 | TE    | MINOR PRO & SEM |   |  | 4      |    |
| 15 | MAHESH KOLI(X1) | SE    | CESGI           | 3 |  |        | 17 |
|    |                 | TE    | IFM             |   |  | 5X2=10 |    |
|    |                 | TE    | MINOR PRO & SEM |   |  | 4      |    |
| 16 | X2              | CM-II | 3               |   |  |        | 19 |



|  |  |        |                       |  |  |        |  |
|--|--|--------|-----------------------|--|--|--------|--|
|  |  | TOM-II |                       |  |  | 6X2=12 |  |
|  |  | TE     | MINOR<br>PRO &<br>SEM |  |  | 4      |  |

**DEPARTMENT OF COMPUTER ENGINEERING**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – I)**

| Sr. No. | Name of the Faculty Member | Class  | Name of the Course        | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|--------|---------------------------|------------|----------------|----------------|---------------|---------------|
|         |                            |        |                           |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1       | G. K. Patnaik              | BE(A)  | ACN                       | 3          | --             |                | 3             | 14            |
|         |                            | BE(B)  | ACN                       | 3          | --             |                | 3             |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 6              |                | 6             |               |
|         |                            | BE     | Project – I               |            | 2              |                | 2             |               |
| 2       | K.P. Adhiya                | SE(A)  | AUP                       | 3          |                |                | 3             | 20            |
|         |                            | SE(A)  | AUPL                      |            | 2              | 4              | 8             |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 2              |                | 2             |               |
|         |                            | BE     | Project – I               |            | 2              |                | 2             |               |
|         |                            | BE     | Seminar – II              | --         | 2              |                | 2             |               |
|         |                            | ME     | DS                        | 3          |                |                | 3             |               |
| 3       | M. E. Patil                | SE(B)  | CLE                       | 3          |                |                | 3             | 24            |
|         |                            | TE(B)  | WPL                       |            | 2              | 6              | 12            |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 2              |                | 2             |               |
|         |                            | BE     | Project – I               |            | 2              |                | 2             |               |
|         |                            | ME     | SPM                       | 3          | 2              | 1              | 5             |               |
| 4       | Ashish T. Bhole            | FE     | PPS                       | 3          |                |                | 3             | 23            |
|         |                            | FE     | PPSL                      |            | 2              | 3              | 6             |               |
|         |                            | TE(A)  | SE                        | 3          | -              |                | 3             |               |
|         |                            | TE(A)  | SEL                       |            | 2              | 1              | 2             |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 6              |                | 2             |               |
|         |                            | BE     | Seminar – II              |            | 2              |                | 2             |               |
|         |                            | ME     | NCC                       | 3          | 2              | 1              | 5             |               |
| 5       | Sandip S. Patil            | TE(B)  | SE                        | 3          | -              |                | 3             | 23            |
|         |                            | TE(B)  | SEL                       |            | 2              | 1              | 2             |               |
|         |                            | FE(F)  | PPS                       | 3          |                |                | 3             |               |
|         |                            | FE(F)  | PPSL                      |            | 2              | 3              | 6             |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 2              |                | 2             |               |
|         |                            | BE     | Seminar – II              |            | 2              |                | 2             |               |
|         |                            | ME     | ASE                       | 3          | 2              | 1              | 5             |               |
| 6       | Shital A. Patil            | TE(A)  | DBMS                      | 3          | -              |                | 3             | 25            |
|         |                            | TE(A)  | DBMSL                     | -          | 2              | 6              | 12            |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 6              |                | 6             |               |
|         |                            | BE     | Project – I               |            | 2              |                | 2             |               |
|         |                            | BE     | Seminar – II              |            | 2              |                | 2             |               |
| 7       | Nilima Patil               | SE (B) | OOP                       | 1          |                |                | 1             | 25            |
|         |                            | SE(B)  | OOPL                      |            | 2              | 4              | 8             |               |
|         |                            | TE(B)  | SEL                       |            | 2              | 3              | 6             |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 6              |                | 6             |               |
|         |                            | BE     | Project – I               |            | 2              |                | 2             |               |
|         |                            | BE     | Seminar – II              |            | 2              |                | 2             |               |
| 8       | Priti R. Sharma            | BE(A)  | ES                        | 3          | -              |                | 3             | 25            |
|         |                            | BE(A)  | ESL                       | -          | 2              | 4              | 8             |               |
|         |                            | TE(A)  | WPL                       | -          | 2              | 2              | 4             |               |
|         |                            | TE     | Minor Project (Stage – I) |            | 6              |                | 6             |               |

|    |                   |        |                           |    |    |   |   |    |
|----|-------------------|--------|---------------------------|----|----|---|---|----|
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 9  | N. Y. Suryavanshi | TE(A)  | FLAT                      | 3  | -  |   | 3 | 24 |
|    |                   | BE(A)  | ACNL                      | -  | 2  | 4 | 8 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
|    |                   | ME     | AA                        | 3  |    |   | 3 |    |
| 10 | Dipak Bage        | BE(B)  | ES                        | 3  |    |   | 3 | 24 |
|    |                   | BE(B)  | ESL                       | -  | 2  | 4 | 8 |    |
|    |                   | SE(B)  | OB                        | 3  |    |   | 3 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 11 | Y. Borse          | FE(G)  | PPS                       | 3  |    |   | 3 | 24 |
|    |                   | FE     | PPSL                      |    | 2  | 4 | 8 |    |
|    |                   | BE(A)  | SEPM                      | 3  |    |   | 3 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 12 | Satpal Rajput     | SE(A)  | DM                        | 3  | -  |   | 3 | 17 |
|    |                   | SE(A)  | DML                       |    | 2  | 2 | 4 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 13 | D. D. Puri        | FE(I)  | PPS                       | 3  |    |   | 3 | 24 |
|    |                   | FE(I)  | PPSL                      |    | 2  | 2 | 4 |    |
|    |                   | TE(B)  | FLAT                      | 3  |    |   | 3 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 14 | Akash Waghmare    | SE(B)  | DM                        | 3  | -  |   | 3 | 24 |
|    |                   | SE(B)  | DML                       | -  | 2  | 2 | 4 |    |
|    |                   | TE(B)  | DBMS                      | 3  |    |   | 3 |    |
|    |                   | TE(B)  | DBMSL                     |    | 2  | 2 | 4 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 15 | Dhanashree Tayade | BE(B)  | AUP                       | 3  | -  |   | 3 | 25 |
|    |                   | BE(B)  | AUPL                      | -  | 2  | 4 | 8 |    |
|    |                   | SE     | DML                       |    | 2  | 2 | 4 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 16 | Sushant Bahekar   | TE(A)  | AI                        | 3  |    |   | 3 | 16 |
|    |                   | BE(B)  | AIES                      | 3  |    |   | 3 |    |
|    |                   | TE     | Minor Project (Stage – I) |    | 6  |   | 6 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              |    | 2  |   | 2 |    |
| 17 | Pravin Patil      | SE (A) | OB                        | 3  | -- |   | 3 | 18 |
|    |                   | TE(B)  | AI                        | 3  |    |   | 3 |    |
|    |                   | BE(B)  | ACNL                      |    | 2  | 4 | 8 |    |
|    |                   | BE     | Project – I               |    | 2  |   | 2 |    |
|    |                   | BE     | Seminar – II              | -- | 2  |   | 2 |    |
| 18 | Archana Shinde    | SE(A)  | OOP                       | 1  |    |   | 1 | 18 |
|    |                   | SE(A)  | OOPL                      | -  | 2  | 4 | 8 |    |

|    |                   |       |              |   |   |   |    |    |
|----|-------------------|-------|--------------|---|---|---|----|----|
|    |                   | BE(A) | AIES         | 3 |   |   | 3  |    |
|    |                   | BE    | Project – I  |   | 2 |   | 2  |    |
|    |                   | BE    | Seminar – II |   | 2 |   | 2  |    |
| 19 | Kajal Visrani     | TE(A) | WPL-S        |   | 2 | 2 | 4  | 15 |
|    |                   | TE(A) | CLE          | 3 |   |   | 3  |    |
|    |                   | BE(B) | AUPL-S       |   | 2 | 4 | 8  |    |
| 20 | Savita borse      | TE(A) | SEL          |   | 2 | 3 | 6  | 14 |
|    |                   | TE(B) | WPL-S        |   | 2 | 4 | 8  |    |
| 21 | Jyoti Revanshete  | SE    | DML          |   | 2 | 2 | 4  | 16 |
|    |                   | SE    | DML-S        |   | 2 | 1 | 2  |    |
|    |                   | TE    | DBMSL-S      |   | 2 | 5 | 10 |    |
| 22 | Jaya Suryawanshi  | FE    | PPSL-S       |   | 2 | 4 | 8  | 16 |
|    |                   | SE    | OOPL-S       |   | 2 | 4 | 8  |    |
| 23 | Roshani Fulpagare | FE    | PPSL-S       |   | 2 | 4 | 8  | 18 |
|    |                   | SE    | OOPL-S       |   | 2 | 4 | 8  |    |
|    |                   | SE    | DML-S        |   | 2 | 1 | 2  |    |
| 24 | Tejal Patil       | FE    | PPSL-S       |   | 2 | 4 | 8  | 12 |
|    |                   | SE    | DML-S        |   | 2 | 2 | 4  |    |
| 25 | Prajakta Pawar    | SE    | DML-S        |   | 2 | 4 | 8  | 16 |
|    |                   | TE    | DBMS-L       |   | 2 | 4 | 8  |    |

Head of the Department



ISO 9001:2015

**Shram Sadhana Bombay Trust's**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B ++ (2.91) NAAC Accredited**

**DEPARTMENT OF COMPUTER ENGINEERING**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – II)**

| Sr. No. | Name of the Faculty Member | Class | Name of the Course | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|-------|--------------------|------------|----------------|----------------|---------------|---------------|
|         |                            |       |                    |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1       | G. K. Patnaik              | BE(A) | CD                 | 3          | --             |                | 3             | 14            |
|         |                            | BE(B) | CD                 | 3          | --             |                | 3             |               |
|         |                            | TE    | Minor Project      |            | 6              |                | 6             |               |
|         |                            | BE    | Project – II       |            | 2              |                | 2             |               |
| 2       | K.P. Adhiya                | SE(A) | COA                | 3          |                |                | 3             | 22            |
|         |                            | SE(A) | COA LAB            |            | 2              | 4              | 8             |               |
|         |                            | TE    | Minor Project      |            | 6              |                | 6             |               |
|         |                            | BE    | Project – II       |            | 2              |                | 2             |               |
|         |                            | ME    | PC                 | 3          |                |                | 3             |               |
| 3       | M. E. Patil                | SE(A) | FA                 | 3          |                |                | 3             | 23            |
|         |                            | TE(A) | CN                 | 3          |                |                | 3             |               |
|         |                            | TE(A) | CNL                |            | 2              | 4              | 8             |               |
|         |                            | BE    | Project – II       |            | 4              |                | 4             |               |
|         |                            | ME    | STQA               | 3          | 2              | 1              | 5             |               |
| 4       | Sandip S. Patil            | SE(A) | DSA                | 3          | -              |                | 3             | 25            |
|         |                            | SE(A) | DSALAB             |            | 2              | 5              | 10            |               |
|         |                            | TE(B) | NN                 | 3          |                |                | 3             |               |
|         |                            | BE    | Project – II       |            | 4              |                | 4             |               |
|         |                            | ME    | SC                 | 3          | 2              | 1              | 5             |               |
| 5       | Ashish T. Bhole            | FE    | PPS                | 3          | -              |                | 3             | 25            |
|         |                            | FE    | PPS LAB            | -          | 2              | 4              | 8             |               |
|         |                            | BE(A) | MC                 | 3          |                |                | 3             |               |
|         |                            | ME    | WE                 | 3          |                |                | 3             |               |
|         |                            | TE    | Minor Project      |            | 4              |                | 4             |               |
|         |                            | BE    | Project – II       |            | 4              |                | 4             |               |
| 6       | D. D. Puri                 | SE(B) | FA                 | 3          | -              |                | 3             | 24            |
|         |                            | BE(B) | MC                 | 3          |                |                | 3             |               |
|         |                            | BE(B) | CD LAB             |            | 2              | 4              | 8             |               |
|         |                            | TE    | Minor Project      |            | 6              |                | 6             |               |
|         |                            | BE    | Project – II       |            | 4              |                | 4             |               |
| 7       | Shital A. Patil            | BE(B) | DWM                | 3          | -              |                | 3             | 24            |
|         |                            | BE(B) | DWM LAB            | -          | 2              | 5              | 10            |               |
|         |                            | TE(B) | PM                 | 3          |                |                | 3             |               |
|         |                            | TE    | Minor Project      |            | 6              |                | 6             |               |
|         |                            | BE    | Project – II       |            | 2              |                | 2             |               |
| 8       | N. Y. Suryavanshi          | TE(A) | DAA                | 3          | -              |                | 3             | 25            |
|         |                            | TE(A) | DAA LAB            | -          | 2              | 2              | 4             |               |
|         |                            | BE(A) | CD LAB             | -          | 2              | 4              | 8             |               |
|         |                            | TE    | Minor Project      |            | 6              |                | 6             |               |
|         |                            | BE    | Project – II       |            | 4              |                | 4             |               |
| 9       | Dipak Bage                 | SE(B) | DSA                | 3          |                |                | 3             | 26            |
|         |                            | SE(B) | DSA LAB            | -          | 2              | 3              | 6             |               |
|         |                            | TE(A) | OS                 | 3          |                |                | 3             |               |
|         |                            | TE(A) | OS LAB             |            | 2              | 2              | 4             |               |
|         |                            | TE    | Minor Project      |            | 6              |                | 6             |               |
|         |                            | BE    | Project – II       |            | 4              |                | 4             |               |

|    |                    |        |               |   |    |   |   |    |
|----|--------------------|--------|---------------|---|----|---|---|----|
| 10 | Nilima Patil       | SE (A) | ITWS          | 3 | 2  | 2 | 7 | 26 |
|    |                    | BE(B)  | SMQA          | 3 |    |   | 3 |    |
|    |                    | BE(B)  | SMQA LAB      |   | 2  | 4 | 8 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 2  |   | 2 |    |
| 11 | Priti R. Sharma    | BE(A)  | DWM           | 3 | -  |   | 3 | 25 |
|    |                    | BE(A)  | DWM LAB       | - | 2  | 3 | 6 |    |
|    |                    | SE(B)  | ITWS          | - | 2  | 4 | 8 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 2  |   | 2 |    |
| 12 | Y. Borse           | BE(A)  | SMQA          | 3 | -  |   | 3 | 26 |
|    |                    | BE(A)  | SMQA LAB      | - | 2  | 4 | 8 |    |
|    |                    | SE(A)  | ITWS          | 1 | 2  | 2 | 5 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 4  |   | 4 |    |
| 13 | Akash Waghmare     | TE(B)  | CN            | 3 | -  |   | 3 | 26 |
|    |                    | TE(B)  | CN LAB        | - | 2  | 4 | 8 |    |
|    |                    | TE(B)  | OS LAB        |   | 2  | 2 | 4 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | ME     | ADBMS         | 3 | 2  | 1 | 5 |    |
| 14 | Satpal Rajput      | TE(B)  | DAA           | 3 | -  |   | 3 | 21 |
|    |                    | TE(B)  | DAA LAB       |   | 2  | 4 | 8 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 4  |   | 4 |    |
| 15 | Sushant Bahekar    | TE(B)  | OS            | 3 |    |   | 3 | 24 |
|    |                    | TE(B)  | OS LAB        | - | 2  | 2 | 4 |    |
|    |                    | FE     | PPS           | 3 |    |   | 3 |    |
|    |                    | FE     | PPS LAB       | - | 2  | 2 | 4 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 4  |   | 4 |    |
| 16 | Pravin K. patil    | SE (B) | COA           | 3 | -- |   | 3 | 14 |
|    |                    | SE(B)  | COA LAB       | - | 2  | 4 | 8 |    |
|    |                    | TE(A)  | NN            | 3 |    |   | 3 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 4  |   | 4 |    |
| 17 | Archana Shinde     | FE     | PPS           | 3 |    |   | 3 | 19 |
|    |                    | FE     | PPS LAB       | - | 2  | 3 | 6 |    |
|    |                    | TE     | Minor Project |   | 6  |   | 6 |    |
|    |                    | BE     | Project – II  |   | 4  |   | 4 |    |
| 18 | Kajal Visrani      | TE(A)  | PM            | 3 | -  |   | 3 | 9  |
|    |                    | BE(A)  | CD LAB        | - | 2  | 3 | 6 |    |
| 19 | Savita Borse       | SE(A)  | DSALAB        |   | 2  | 3 | 6 | 10 |
|    |                    | TE(A)  | OS LAB        |   | 2  | 2 | 4 |    |
| 20 | Jyoti Revenshettye | SE(A)  | DSALAB        |   | 2  | 3 | 6 | 14 |
|    |                    | TE(A)  | DAA LAB       |   | 2  | 4 | 8 |    |
| 21 | Jaya Suryavanshi   | FE     | PPS LAB       |   | 2  | 3 | 6 | 14 |
|    |                    | SE(A)  | DSALAB        |   | 2  | 2 | 4 |    |
|    |                    | TE(A)  | DAA LAB       |   | 2  | 2 | 4 |    |
| 22 | Roshani Fulpagare  | FE     | PPS LAB       |   | 2  | 3 | 6 | 10 |
|    |                    | SE(A)  | ITWS          |   | 2  | 2 | 4 |    |
| 23 | Tejal Patil        | FE     | PPS LAB       |   | 2  | 3 | 6 | 14 |
|    |                    | SE(A)  | ITWS          |   | 2  | 4 | 8 |    |
| 24 | Prajakta Pawar     | FE     | PPS LAB       |   | 2  | 3 | 6 | 10 |
|    |                    | SE(A)  | ITWS          |   | 2  | 2 | 4 |    |



**S.S.B.T.'s College of Engineering & Technology, Bambhori, Jalgaon**  
**Electrical Engineering Department**  
**Term-I (UG)**

**Teaching Load Distribution**  
**Academic Year 2019-20**

| S. No.            | Name of the Staff   | Year   | Subject      | Th.       | Pr.        | Tu.       | Proj      | Semi      | Total Load (Hrs) |
|-------------------|---------------------|--------|--------------|-----------|------------|-----------|-----------|-----------|------------------|
| 1                 | Dr. P. J. Shah      | TE     | PE           | 03        | 06         |           |           |           | 21               |
|                   |                     | FE     | BEEE         | 02        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 2                 | Dr. P. V. Thakre    | TE     | S&S (PEC-I)  | 03        |            |           |           |           | 22               |
|                   |                     | SE     | ECA          | 03        | 06         |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 3                 | Mr. V. S. Pawar     | BE     | IEE          | 03        | 06         |           |           |           | 21               |
|                   |                     | FE     | BEEE         | 02        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 4                 | Mr. M. M. Ansari    | SE     | EM/C-I       | 03        | 06         |           |           |           | 22               |
|                   |                     | BE     | EAC (IDE)    | 03        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 5                 | Mr. S. M. Shembekar | TE     | PS-I         | 03        | 06         |           |           |           | 22               |
|                   |                     | BE     | PSOC         | 03        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 6                 | Mr. D. S. Patil     | BE     | HVE          | 03        | 06         |           |           |           | 22               |
|                   |                     | TE     | EM (OEC-I)   | 03        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 7                 | Mr. N.S. Mahajan    | BE     | IDC          | 03        | 06         |           |           |           | 22               |
|                   |                     | TE     | EMF          | 03        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
| 8                 | Mr. A. S. Borole    | SE(M)A | EDC          | 03        | 10         |           |           |           | 26               |
|                   |                     | BE     | RES (IDE)    | 03        |            |           |           |           |                  |
|                   |                     | BE     | Project-I    |           |            |           | 02        |           |                  |
|                   |                     | BE     | Seminar-II   |           |            |           |           | 02        |                  |
|                   |                     | TE     | Minor Proj-I |           |            |           | 06        |           |                  |
| 9                 | Ms. A.N. Salunkhe   | FE     | BEEE         | 02        | 06         | 01        |           |           | 13               |
|                   |                     | TE     | PS-I         |           | 04*        |           |           |           |                  |
| 10                | Mr. B.D. Darkonde   | SE     | EW           | 01        | 06         |           |           |           | 12               |
|                   |                     | SE(M)B | EDC          | 03        | 02         |           |           |           |                  |
| 11                | Ms. T.D. Patil      | TE     | PE           |           | 04*        |           |           |           | 08               |
|                   |                     | BE     | IDC          |           | 04*        |           |           |           |                  |
| 12                | Ms. V.P. Mahajan    | SE     | ECA          |           | 04*        |           |           |           | 10               |
|                   |                     | TE     | EDL          |           | 06         |           |           |           |                  |
| 13                | Mr. S.N. Joshi      | FE     | BEEE         | 02        | 06         | 01        |           |           | 13               |
|                   |                     | BE     | IEE          |           | 04*        |           |           |           |                  |
| 14                | Ms. P.R. Chauhan    | SE     | IOM          | 03        |            |           |           |           | 07               |
|                   |                     | SE     | EM/C-I       |           | 04*        |           |           |           |                  |
| <b>Total Load</b> |                     |        |              | <b>57</b> | <b>102</b> | <b>02</b> | <b>64</b> | <b>16</b> | <b>241</b>       |



| S. No.     | Name of the Staff   | Year | Subject                   | Th. | Pr. | Tu. | Project | Total Load (Hrs) |
|------------|---------------------|------|---------------------------|-----|-----|-----|---------|------------------|
| 1          | Dr. P. J. Shah      | SE   | ADE                       | 03  | 02  |     |         | 15               |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 2          | Dr. P. V. Thakre    | FE E | BEEE                      | 03  |     | 01  |         | 17               |
|            |                     | TE   | LIC (OEC-II)              | 03  |     |     |         |                  |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 3          | Mr. V. S. Pawar     | TE   | CS                        | 03  | 06  |     |         | 19               |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 4          | Mr. M. M. Ansari    | SE   | EM/C-II                   | 03  |     |     |         | 18               |
|            |                     | BE   | PSS                       | 03  | 02  |     |         |                  |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 5          | Mr. S. M. Shembekar | TE   | PS-II                     | 03  |     |     |         | 18               |
|            |                     | BE   | SGP                       | 03  | 02  |     |         |                  |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 6          | Mr. D. S. Patil     | SE   | EEM                       | 03  | 06  |     |         | 19               |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 7          | Mr. N.S. Mahajan    | TE   | IA (PEC-II)               | 03  |     |     |         | 18               |
|            |                     | BE   | FACTS & PQ (Elective-III) | 03  |     |     |         |                  |
|            |                     | BE   | PS-II                     |     | 02  |     |         |                  |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 8          | Mr. A. S. Borole    | BE   | PSDP (Elective-II)        | 03  | 06  |     |         | 19               |
|            |                     | BE   | Project-II                |     |     |     | 04      |                  |
|            |                     | TE   | Minor Project             |     |     |     | 06      |                  |
| 9          | Ms. A.N. Salunkhe   | BE   | SGP                       |     | 04  |     |         | 08               |
|            |                     | SE   | ADE                       |     | 04  |     |         |                  |
| 10         | Mr. B.D. Darkonde   | SE   | EM/C-II                   |     | 06  |     |         | 06               |
| 11         | Ms. T.D. Patil      | TE   | MPMC                      | 03  | 06  |     |         | 09               |
| 12         | Ms. V.P. Mahajan    | SE   | MI Lab                    | 01  | 06  |     |         | 07               |
| 13         | Mr. S.N. Joshi      | FE E | BEEE                      |     | 06  | 01  |         | 11               |
|            |                     | BE   | PS-II                     |     | 04  |     |         |                  |
| 14         | Ms. P.R. Chauhan    | SE   | ED                        | 03  |     |     |         | 07               |
|            |                     | BE   | PSS                       |     | 04  |     |         |                  |
| Total Load |                     |      |                           | 43  | 66  | 02  | 80      | 191              |

**S.S.B.T'S College of Engineering & Technology, Bambhori, Jalgaon**  
**Department of Information Technology**  
**Load Distribution (Term-I) 2017-18**

| Sr. No. | Staff Name         | Designation | Class  | Subject           | Theory | Practical | Total Load |
|---------|--------------------|-------------|--------|-------------------|--------|-----------|------------|
| 1       | Dr. U. S. Bhadade  | Professor   | SE.IT  | OOT               | 3      | 2*3=6     | 13         |
|         |                    |             | BE IT  | Project & Seminar | --     | 4         |            |
| 2       | Mrs. A. K. Bhavsar | Asso. Prof  | SE IT  | SS-III            | --     | 2*3=6     | 21         |
|         |                    |             | TE IT  | SE                | 3      | 2*4=8     |            |
|         |                    |             | BE.IT  | Project & Seminar | --     | 4         |            |
| 3       | Mr. S. J. Patil    | Asst. Prof  | BE IT  | ERP               | 3      |           | 18         |
|         |                    |             | TE.IT  | CN                | 3      | 2*4=8     |            |
|         |                    |             | BE.IT  | Project & Seminar | --     | 4         |            |
| 4       | Mr. N. P. Jagtap   | Asst. Prof  | SE IT  | DSGT              | 3+1(T) | --        | 17         |
|         |                    |             | BE IT  | ES                | 3      | 2*3=6     |            |
|         |                    |             | BE IT  | Project & Seminar | --     | 4         |            |
| 5       | Mr. S. H. Rajput   | Asst. Prof  | TE IT  | FLAT              | 3      | --        | 17         |
|         |                    |             | BE IT  | AI                | 3      | 2*3=6     |            |
|         |                    |             | SE IT  | SS-III            | 1      |           |            |
|         |                    |             | BE IT  | Project & Seminar | --     | 4         |            |
| 6       | Mr. R. B. Sangore  | Asst. Prof  | BE ALL | ERP & SAP         | 3      |           | 16         |
|         |                    |             | SE IT  | IT                | 3      | 2*3=6     |            |
|         |                    |             | BE IT  | Project & Seminar | --     | 4         |            |
| 7       | Mr. S. K. Singh    | Asst. Prof  | BE IT  | AUP               | 3      | 2*3=6     | 22         |
|         |                    |             | TE IT  | JPL               | 1      | 2*4=8     |            |
|         |                    |             | BE IT  | Project & Seminar | --     | 4         |            |
| 8       | Miss. T. A. Patil  | Asst. Prof  | TE IT  | SP                | 3      | 2*4=8     | 17         |
|         |                    |             | SE IT  | DSGT              | -      | 2*3=6     |            |
| 9       | Mrs. M. Rode       | Asst. Prof  | SE IT  | DSM               | 3      | 2*3=6     | 17         |
|         |                    |             | TE IT  | LL                | --     | 2*4=8     |            |
| Total   |                    |             |        |                   |        |           | 158        |

- Mr. P. A. Anawade Asst. Prof. of MBA department is taking POM of TE IT.

HOD IT  
(Dr. U. S. Bhadade)

# SSBT's College of Engineering and Technology

## Department of Information Technology

### Load Distribution - Term - II (2017-18)

| Sr. No. | Staff Name           | Designation      | Class | Subject | Theory | Practical | Project | Total Load |
|---------|----------------------|------------------|-------|---------|--------|-----------|---------|------------|
| 1       | Dr. U. S. Bhadade    | Professor & Head | TE    | DBMS    | 3      | 2*2       |         | 11         |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 2       | Mrs. A. K. Bhavsar   | Asso. Professor  | TE    | OOMD    | 3      | 2*4       |         | 21         |
|         |                      |                  | SE    | DC      |        | 2*3       |         |            |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 3       | Mr. S. J. Patil      | Asst. Professor  | BE    | IS      | 3      | 2*3       |         | 22         |
|         |                      |                  | FE    | CP      | 3      | 2*3       |         |            |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 4       | Mr. N. P. Jagtap     | Asst. Professor  | BE    | DWM     | 3      | 2*3       |         | 22         |
|         |                      |                  | SE    | CGM     | 3      | 2*3       |         |            |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 5       | Mr. S. H. Rajput     | Asst. Professor  | SE    | DC      | 3      |           |         | 20         |
|         |                      |                  | TE    | DBMS    |        | 2*2       |         |            |
|         |                      |                  | BE    | SMQA    | 3      | 2*3       |         |            |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 6       | Mr. R. B. Sangore    | Asst. Professor  | SE    | CO      | 3      |           |         | 18         |
|         |                      |                  | TE    | OS      | 3      | 2*4       |         |            |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 7       | Mr. S. K. Singh      | Asst. Professor  | SE    | DS      | 4      | 2*3       |         | 22         |
|         |                      |                  | TE    | WPL     |        | 2*4       |         |            |
|         |                      |                  | BE    | PROJECT |        |           | 4       |            |
| 8       | Ms. Tejashri Patil   | Asst. Professor  | SE    | ADL     | 1      | 2*3       | 2*3     | 13         |
|         |                      |                  | TE    | MIS     | 3      |           |         |            |
|         |                      |                  | BE    | CC      | 3      |           |         |            |
| 9       | Ms. Priyanka Gaikwad | Asst. Professor  | SE    | MPMCI   | 4      | 2*3       | 2*3     | 13         |
|         |                      |                  | TE    | E-COM   | 3      |           |         |            |
|         |                      |                  |       |         |        |           |         | 162        |

| Sr. No. | Staff Name         | Designation      | Class | Subject           | Theory | Practical | Project | Total Load |
|---------|--------------------|------------------|-------|-------------------|--------|-----------|---------|------------|
| 1       | Dr. U. S. Bhadade  | Professor & Head | TE    | SE                | 3      | 2*3       |         | 13         |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 2       | Mrs. A. K. Bhavsar | Asso. Professor  | TE    | SP                | 3      | 2*3       |         | 16         |
|         |                    |                  | SE    | OB                | 3      |           |         |            |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 3       | Mr. S. J. Patil    | Asst. Professor  | BE    | CN                | 3      | 2*3       |         | 16         |
|         |                    |                  | BE    | ERP               | 3      |           |         |            |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 4       | Mr. N. P. Jagtap   | Asst. Professor  | BE    | ES                | 3      | 2*4       |         | 18         |
|         |                    |                  | SE    | DSGT              | 3      |           |         |            |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 5       | Mr. S. H. Rajput   | Asst. Professor  | TE    | FLAT              | 3      |           |         | 18         |
|         |                    |                  | TE    | JPL               |        | 2*2       |         |            |
|         |                    |                  | SE    | OOP               | 1      | 2*3       |         |            |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 6       | Mr. R. B. Sangore  | Asst. Professor  | BE    | AP                | 3      | 2*4       |         | 18         |
|         |                    |                  | TE    | POM               | 3      |           |         |            |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 7       | Mr. S. K. Singh    | Asst. Professor  | BE    | AUP               | 3      | 2*4       |         | 18         |
|         |                    |                  | SE    | JPL               | 1      | 2*1       |         |            |
|         |                    |                  | BE    | Project & Seminar |        |           | 4       |            |
| 8       | M. R. Mahajan      | Asst. Professor  | BE    | ERP & SAP         | 3      |           |         | 15         |
|         |                    |                  | TE    | LL                |        | 2*3       |         |            |
|         |                    |                  | SE    | DSGT              |        | 2*3       |         |            |
|         |                    |                  |       |                   |        |           |         | <b>132</b> |



**Shram Sadhana Bombay Trust's**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B++ (2.91) NAAC Accredited**

**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2018 – 19 (Term – II)**

| Sr. No<br>. | Name of Faculty<br>Mamber | Class | Name of Course                             | TH in<br>Hrs. | Practical in Hrs  |                   |                  | Project | Total |
|-------------|---------------------------|-------|--|---------------|-------------------|-------------------|------------------|---------|-------|
|             |                           |       |  |               | Hrs. per<br>Batch | No. Of<br>Batches | Totals<br>in Hrs |         |       |
| 1           | Dr. U.S. Bhadade          | SE IT | Digital Electronics (DE)                   | 3             | 2                 | 3                 | 6                | 4       | 13    |
| 2           | Mrs. A. K. Bhavsar        | SE IT | Finance & Accounting (FA)                  | 3             | --                | --                | --               | 4       | 16    |
|             |                           | TE IT | Object Oriented Modeling and Design (OOMD) | 3             | 2                 | 3                 | 6                |         |       |
| 3           | Mr. S.J. Patil            | TE IT | Operating System (OS)                      | 3             | 2                 | 1                 | 2                | 4       | 20    |
|             |                           | BE IT | Internet Security (IS)                     | 3             | 2                 | 4                 | 8                |         |       |
| 4           | Mr. N. P. Jagtap          | TE IT | Database Management System (DBMS)          | 3             | --                | --                | --               | 4       | 18    |
|             |                           | BE IT | Data Ware housing and Mining (DWM)         | 3             | 2                 | 4                 | 8                |         |       |
| 5           | Mr. S. H. Rajput          | SE IT | IT Workshop (ITW/S)                        | 1             | 2                 | 3                 | 6                | 4       | 20    |
|             |                           | TE IT | E- Commerce (E-COM)                        | 3             | --                | --                | --               |         |       |
|             |                           | TE IT | Database Management System (DBMS)          | --            | 2                 | 2                 | 6                |         |       |
| 6           | Mr. R.B. Sangore          | SE IT | Computer Organization & Architecture (COA) | 3             | 2                 | 3                 | 6                | 4       | 18    |
|             |                           | BE IT | Computer Network and Security (CNS)        | 3             | --                | --                | --               |         |       |
|             |                           | TE IT | Operating System (OS)                      | --            | 2                 | 1                 | 2                |         |       |
| 7           | Mr. S. K. Singh           | SE IT | Data structure & Algorithms (DSA)          | 3             | 2                 | 3                 | 6                | 4       | 18    |
|             |                           | TE IT | Operating System (OS)                      | --            | 2                 | 1                 | 2                |         |       |
|             |                           | BE IT | Cloud Computing (CC)                       | 3             | --                | --                | --               |         |       |
| 8           | Ms. M. R. Mahajan         | TE IT | Web Programming Lab (WPL)                  | --            | 2                 | 3                 | 6                | --      | 17    |
|             |                           | TE IT | Management Information System (MIS)        | 3             | --                | --                | --               |         |       |
|             |                           | BE IT | Computer Network and Security (CNS)        | --            | 2                 | 2                 | 8                |         |       |
| Total       |                           |       |  | 40            | 72                |                   |                  | 28      | 140   |

Head of the Department



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**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – I)**

| Sr. No. | Name of Faculty Mamber | Class | Name of Course                    | TH in Hrs. | Practical in Hrs |                |               | Proje ct | Total |
|---------|------------------------|-------|-----------------------------------|------------|------------------|----------------|---------------|----------|-------|
|         |                        |       |                                   |            | Hrs. per Batc h  | No. Of Batches | Totals in Hrs |          |       |
| 1       | Dr. U.S. Bhadade       | TE IT | Cyber Law & Ethics (OEC-1)        | 3          | --               | --             | --            | 6+4=10   | 17    |
|         |                        | TE IT | Web Programming Lab               | -          | 2                | 2              | 4             |          |       |
| 2       | Mrs. A. K. Bhavsar     | TE IT | Software Engineering (SE)         | 3          | 2                | 4              | 8             | 6+4=10   | 21    |
| 3       | Mr. N. P. Jagtap       | SE IT | Discrete Mathematics              | 3          | -                | -              |               | 6+4=10   | 18    |
|         |                        | BE IT | Embedded System                   | 3          | 2                | 1              | 2             |          |       |
| 4       | Mr. S. H. Rajput       | SE IT | OOP Lab                           | 1+2*       | 2                | 2              | 4             | 6+4=10   | 20    |
|         |                        | TE IT | Formal Language & Automata Theory | 3          | -                | -              | -             |          |       |
| 5       | Mr. R.B. Sangore       | BE IT | IDE (ERP SAP )                    | 3          | --               | --             | --            | 6+4=10   | 22    |
|         |                        | BE IT | Advanced Unix Programming         | 3          | 2                | 3              | 6             |          |       |
| 6       | Mr. S. K. Singh        | TE IT | Database Management System (DBMS) | 3          | -                | -              | -             | 6+4=10   | 18    |
|         |                        | BE IT | EL-I (Android Programming)        | 3          | 2                | 1              | 2             |          |       |
| 7       | Ms. T A Patil          | BE IT | Enterprise Resource Planning      | 3          | -                | -              | -             | 4        | 19    |
|         |                        | TE IT | Web Programming Lab               | -          | 2                | 4              | 8             |          |       |
|         |                        | BE IT | Embedded System                   | --         | 2                | 2              | 4             |          |       |
| 8       | S M Deshmukh           | TE IT | E- Commerce (E-COM)               | 3          | -                | -              | -             | 4        | 19    |
|         |                        | TE IT | Database Management System (DBMS) | -          | 2                | 4              | 8             |          |       |
|         |                        | SE IT | OOP Lab                           |            | 2                | 2              | 4             |          |       |
| 9       | N D Kasar              | SE IT | Organizational Behavior (OB)      | 3          | --               | --             | --            | 4        | 19    |
|         |                        | SE IT | Discrete Mathematics Lab          | -          | 2                | 4              | 8             |          |       |
|         |                        | BE IT | EL-I (Android Programming)        | -          | 2                | 2              | 4             |          |       |
| Total   |                        |       |                                   | 37+2*      |                  |                | 62            | 72       | 173   |



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**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – II)**

| Sr. No. | Name of Faculty Member | Class | Name of Course                       | TH in Hrs. | Practical in Hrs |                |               | Project | Total |
|---------|------------------------|-------|--------------------------------------|------------|------------------|----------------|---------------|---------|-------|
|         |                        |       |                                      |            | Hrs. per Batch   | No. Of Batches | Totals in Hrs |         |       |
| 1       | Dr. U.S. Bhadade       | TE IT | Project Management                   | 3          | --               | --             | --            | 6       | 12    |
|         |                        | SE IT | Digital Electronics                  | 3          | -                | -              | -             |         |       |
| 2       | Mrs. A. K. Bhavsar     | TE IT | Operating Systems                    | 3          | 2                | 3              | 6             | 6       | 18    |
|         |                        | SE IT | Finance & Accounting                 | 3          | -                | -              | -             |         |       |
| 3       | Mr. N. P. Jagtap       | BE IT | Data Warehousing & Mining*           | 3          | 2                | 3              | 6             | 6       | 18    |
|         |                        | TE IT | Embedded Systems                     | 3          | -                | -              | -             |         |       |
| 4       | Mr. S. H. Rajput       | TE IT | Computer Networks                    | 3          | 2                | 3              | 6             | 6       | 18    |
|         |                        | BE IT | Software Metrics & Quality Assurance | 3          | -                | -              | -             |         |       |
| 5       | Mr. R.B. Sangore       | BE IT | Internet Security                    | 3          | 2                | 3              | 6             | 6       | 18    |
|         |                        | SE IT | Computer Organization & Architecture | 3          | -                | -              | -             |         |       |
| 6       | Ms. T. A. Patil        | SE IT | Data Structure & Algorithms          | 3          | 2                | 4              | 8             | 6       | 20    |
|         |                        | BE IT | Cloud Computing                      | 3          | -                | -              | -             |         |       |
| 7       | Ms. S. M. Deshmukh     | TE IT | Design and Analysis of Algorithms    | 3          | 2                | 3              | 6             | -       | 17    |
|         |                        | SE IT | Computer Organization & Architecture | -          | 2                | 4              | 8             |         |       |
| 8       | Mr. N D Kasar          | SE IT | IT Workshop                          | 1          | 2                | 4              | 8             | -       | 15    |
|         |                        | BE IT | Software Metrics & Quality Assurance | -          | 2                | 3              | 6             |         |       |
| 9       | Ms. D. G. Sapkal       | SE IT | Digital Electronics                  | -          | 2                | 4              | 8             | -       | 08    |
|         |                        |       |                                      |            |                  |                |               | Total   | 144   |

Head of the Department

SSBT's College of Engineering & Technology, Bambhori, Jalgaon  
Department of Electronics & Telecommunication Engineering  
Teaching Load Distribution for 2019-20 Term - I

| Sr. No. | Faculty Member     | Class     | Subject      | Theory     | Pract.    | T.E. Min.proj. | B.E. Sem. | B.E. Proj. | Total      |
|---------|--------------------|-----------|--------------|------------|-----------|----------------|-----------|------------|------------|
| 1       | Dr. S. R. Suralkar | SE        | DSD          | 3          | 4         | 2              | 2         | 2          | 13         |
| 2       | Dr. M.P. Deshmukh  | SE(COM P) | AEC          | 6          | 4         | 2              |           |            |            |
|         |                    | SE        | EM           | 3          |           |                |           |            | 15         |
| 3       | Mr D. U. Adokar    | FE        | BEEE         | 3+2TU<br>T | 2         |                | 2         | 2          |            |
|         |                    | TE        | MC           | 3          | 4         |                |           |            | 18         |
| 4       | Mr. V.M. Deshmukh  | TE        | EMW          | 3          |           |                |           | 2          |            |
|         |                    | SE(IT)    | SS           | 3          |           |                |           |            |            |
|         |                    | FE        | BEEE         |            | 8         |                |           |            | 16         |
| 5       | Mr. N.M. Kazi      | BE        | CCN          | 3          |           |                | 2         | 2          |            |
|         |                    | SE(COM P) | AEC          |            | 4         |                |           |            |            |
|         |                    | SE(IT)    | AEC          |            | 2         |                |           |            |            |
|         |                    | BE        | AE           | 3          |           |                |           |            | 16         |
| 6       | Dr. P. H. Zope     | BE        | DSP          | 3          | 6         |                |           | 2          |            |
|         |                    | TE        | SS           | 3          | 4         |                |           |            | 18         |
| 7       | Mr. A.H. Karode    | BE        | FOC          | 3          | 8         |                | 2         | 2          |            |
|         |                    | TE        | BM           | 3          |           |                |           |            | 18         |
| 8       | Mr. A.C. Wani      | SE        | SSDC         | 3          |           | 4              |           | 2          |            |
|         |                    | SE        | EDCLA<br>B   | 1          | 4         |                |           |            |            |
|         |                    | SE(IT)    | AEC          | 3          | 2         |                |           |            | 19         |
| 9       | Mr. S.P. Ramteke   | SE(COM P) | SS           | 6          |           |                | 2         |            |            |
|         |                    | SE(COM P) | AEC          |            | 4         |                |           |            |            |
|         |                    | BE        | DSP          |            | 2         |                |           |            |            |
|         |                    | SE        | PL-I         |            | 4         |                |           |            | 18         |
| 10      | Mr. S.K. Khode     | TE        | PE           | 3          | 4         |                | 2         |            |            |
|         |                    | SE(IT)    | AEC          |            | 2         |                |           |            |            |
|         |                    | BE        | VLSI         | 3          | 4         |                |           |            | 18         |
| 11      | Mrs. M. T.Deshmukh | FE        | BEEE         | 3+2TU<br>T | 2         | 4              |           |            |            |
|         |                    | SE        | IOM          | 3          |           |                |           |            |            |
|         |                    | BE        | VLSI         |            | 4         |                | 2         |            | 20         |
|         |                    |           | <b>Total</b> | <b>71</b>  | <b>78</b> | <b>12</b>      | <b>14</b> | <b>14</b>  | <b>189</b> |



SSBT's College of Engineering & Technology, Bambhori, Jalgaon  
Department of Electronics & Telecommunication Engineering  
Teaching Load Distribution for 2019-20 Term - II

| Sr. No. | Name of the Faculty Member | Class     | Name of the Course         | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|-----------|----------------------------|------------|----------------|----------------|---------------|---------------|
|         |                            |           |                            |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1       | Dr.S.R.Suralkar            | TE        | EM                         | 3          | 2              | 1              | 5             | 11            |
|         |                            | TE        | Minor Project (Stage – II) |            |                | 2              | 2             |               |
|         |                            | BE        | Project – II               |            |                | 4              | 4             |               |
| 2       | Dr.M.P.Deshmukh            | SE        | AC                         | 3          | 2              | 2              | 7             | 14            |
|         |                            | FE        | BEEE                       | 3          | 2              | 1              | 5             |               |
|         |                            | TE        | Minor Project (Stage – II) |            |                | 2              | 2             |               |
| 3       | Mr.D.U.Adokar              | TE        | C-MOS                      | 3          |                |                | 3             | 16            |
|         |                            | SE(comp ) | DE                         | 3          | 2              | 3              | 9             |               |
|         |                            | BE        | Project – II               |            |                | 4              | 4             |               |
| 4       | Mr.V.M.Deshmukh            | SE        | NL                         | 3          | -              |                | 3             | 17            |
|         |                            | SE        | Elex-N.LAB                 | 1          | 2              | 2              | 5             |               |
|         |                            | FE        | BEEE                       | 3          | 2              |                | 5             |               |
|         |                            | BE        | Project – II               | --         |                | 4              | 4             |               |
| 5       | Mr.N.M.Kazi                | BE        | TNM                        | 3          | -              |                | 3             | 16            |
|         |                            | SE(comp ) | DE                         | 3          | 2              | 3              | 9             |               |
|         |                            | BE        | Project – II               | --         |                | 4              | 4             |               |
| 6       | Dr.P.H.Zope                | BE        | ES                         | 3          | 2              | 4              | 11            | 17            |
|         |                            | FE        | BEEE( )                    |            | 2              | 1              | 2             |               |
|         |                            | BE        | Project– II                | --         |                | 4              | 4             |               |
| 7       | Mr.A.H.Karode              | TE        | WSN                        | 3          |                |                | 3             | 16            |
|         |                            | SE        | EDP                        | 3          |                |                | 3             |               |
|         |                            | TE        | EM                         |            | 2              | 1              | 2             |               |
|         |                            | BE        | Project-II                 | --         |                | 4              | 4             |               |
|         |                            | FE        | BEEE( )                    |            | 2              | 2              | 4             |               |
| 8       | Mr.A,C.Wani                | TE        | ED                         | 3          | 2              | 2              | 7             | 18            |
|         |                            | FE        | BEEE( )                    | 3          |                |                | 3             |               |
|         |                            | TE        | Minor Project (Stage – II) |            |                | 4              | 4             |               |
|         |                            | BE        | Project – II               |            |                | 4              | 4             |               |
| 9       | Mr.S.P.Ramteke             | BE        | RMT                        | 3          | 2              | 4              | 11            | 18            |
|         |                            | SE        | ADC                        | 3          | 2              | 2              | 7             |               |
| 10      | Mr.S.K.Khode               | BE        | SMC                        | 3          | 2              | 4              | 11            | 17            |
|         |                            | FE        | BEEE                       | -          | 2              | 3              | 6             |               |
| 11      | Mrs.M.T.Deshmukh           | TE        | CS                         | 3          | 2              | 2              | 7             | 17            |
|         |                            | SE        | ELEX(W-S)                  | -          | 2              | 2              | 4             |               |
|         |                            | FE        | BEEE                       |            | 1              | 2              | 2             |               |
|         |                            | TE        | Minor Project (Stage – II) |            |                | 4              | 4             |               |
|         | Total                      |           |                            | 55         | 38             | 80             | 177           | 177           |



**Shram Sadhana Bombay Trust's**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B++ (2.91) NAAC Accredited**

**DEPARTMENT OF MECHANICAL ENGINEERING**  
**TEACHING LOAD DISTRIBUTION**

**Academic Year 2019 – 20 (Term – I) (16.07.2019)**

| Sr. No. | Name of the Faculty Member | Class    | Name of the Course  | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|----------|---------------------|------------|----------------|----------------|---------------|---------------|
|         |                            |          |                     |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1       | Dr. S. P. Shekhawat        | SE(A)    | Thermodynamics      | 03         | -----          | -----          | -----         | 16            |
|         |                            | SE(B)    | Thermodynamics      | 03         | -----          | -----          | -----         |               |
|         |                            | TE       | Minor Project-I     | -----      | -----          | -----          | 06            |               |
|         |                            | BE       | Seminar-II          | -----      | -----          | -----          | 02            |               |
|         |                            | BE       | Project-I           | -----      | -----          | -----          | 02            |               |
| 2       | Mr. N. K. Patil            | FE (C)   | EG                  | 03         | 02             | 01             | 02            | 18            |
|         |                            | SE(B)    | Engg. Mechanics     | 03         | -----          | -----          | -----         |               |
|         |                            | TE       | Minor Project-I     | -----      | -----          | -----          | 06            |               |
|         |                            | BE       | Seminar-II          | -----      | -----          | -----          | 02            |               |
|         |                            | BE       | Project-I           | -----      | -----          | -----          | 02            |               |
| 3       | Mr. K. Shrivastava         | FE (B)   | EG                  | 03         | 02             | 01             | 02            | 20            |
|         |                            | TE (A)   | HT                  | 03         | 02             | 01             | 02            |               |
|         |                            | TE       | Minor Project-I     | -----      | -----          | -----          | 06            |               |
|         |                            | BE       | Seminar-II          | -----      | -----          | -----          | 02            |               |
|         |                            | BE       | Project-I           | -----      | -----          | -----          | 02            |               |
| 4       | Mr. M.V. Rawlani           | BE (B)   | OR                  | 03         | -----          | -----          | -----         | 18            |
|         |                            | BE (IND) | ORT                 | 03         | -----          | -----          | -----         |               |
|         |                            | FE (A)   | EG                  | -----      | 02             | 01             | 02            |               |
|         |                            | TE       | Minor Project-I     | -----      | -----          | -----          | 06            |               |
|         |                            | BE       | Seminar-II          | -----      | -----          | -----          | 02            |               |
|         |                            | BE       | Project-I           | -----      | -----          | -----          | 02            |               |
| 5       | Dr. P. G. Damle            | BE(A)    | AE- I               | 03         | -----          | -----          | -----         | 17            |
|         |                            | TE(A)    | Machine Drawing Lab | -----      | 02             | 01             | 02            |               |
|         |                            | TE(B)    | Machine Drawing Lab | -----      | 02             | 01             | 02            |               |
|         |                            | TE       | Minor Project-I     | -----      | -----          | -----          | 06            |               |
|         |                            | BE       | Seminar-II          | -----      | -----          | -----          | 02            |               |
|         |                            | BE       | Project-I           | -----      | -----          | -----          | 02            |               |
| 6       | Mr. D. B. Sadaphale        | TE (A)   | ISE                 | 03         | -----          | -----          | -----         | 20            |
|         |                            | TE (B)   | ISE                 | 03         | -----          | -----          | -----         |               |
|         |                            | SE(A)    | Thermodynamics      | -----      | 02             | 02             | 04            |               |
|         |                            | TE       | Minor Project-I     | -----      | -----          | -----          | 06            |               |
|         |                            | BE       | Seminar-II          | -----      | -----          | -----          | 02            |               |
|         |                            | BE       | Project-I           | -----      | -----          | -----          | 02            |               |
| 7       | Mr. P. N. Ulhe             | TE (A)   | SOM                 | 03         | -----          | -----          | -----         | 18            |
|         |                            | TE (B)   | SOM                 | 03         | -----          | -----          | -----         |               |
|         |                            | TE(B)    | Machine Drawing Lab | -----      | 02             | 01             | 02            |               |

|    |                     |             |                       |       |       |       |       |    |
|----|---------------------|-------------|-----------------------|-------|-------|-------|-------|----|
|    |                     | TE          | Minor Project-I       | ----- | ----- | ----- | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 8  | Mr. P. M. Solanki   | FE (D)      | EG                    | 03    | 02    | 01    | 02    | 20 |
|    |                     | BE (A)      | CAD/CAM               | 03    | 02    | 01    | 02    |    |
|    |                     | TE          | Minor Project-I       | ----- | ----- | ----- | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 9  | Mr. P. D. Patil     | FE (A)      | EG                    | 03    | 02    | 01    | 02    | 20 |
|    |                     | BE (B)      | CAD/CAM               | 03    | 02    | 01    | 02    |    |
|    |                     | TE          | Minor Project-I       | ----- | ----- | ----- | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 10 | Mr. M. V. Kulkarni  | TE(B)       | HT                    | 03    | 02    | 02    | 04    | 20 |
|    |                     | TE (A)      | ECM                   | 03    | ----- | ----- | ----- |    |
|    |                     | TE          | Minor Project-I       | ----- | ----- | ----- | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 11 | Mr. A. R. Bhardwaj  | FE (A to E) | WP                    | 05    | ----- | ----- | ----- | 17 |
|    |                     | TE(A)       | Manufacturing Process | 03    | 02    | 03    | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 12 | Mr. D. C. Talele    | SE(A)       | Engg. Mechanics       | 03    | ----- | ----- | ----- | 20 |
|    |                     | BE(A)       | OR                    | 03    | ----- | ----- | ----- |    |
|    |                     | BE (A)      | CAD/CAM               | ----- | 02    | 02    | 04    |    |
|    |                     | BE (B)      | CAD/CAM               | ----- | 02    | 03    | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 13 | Dr. P.P. Bornare    | TE (A)      | PPTD                  | 03    | ----- | ----- | ----- | 20 |
|    |                     | BE(B)       | AUTO-I                | 03    | 02    | 04    | 08    |    |
|    |                     | BE(A)       | AUTO-I                | ----- | 02    | 01    | 02    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 14 | Mr. C. K. Mukherjee | SE (A)      | IPs                   | 03    | ----- | ----- | ----- | 20 |
|    |                     | SE (B)      | IPs                   | 03    | ----- | ----- | ----- |    |
|    |                     | TE (A)      | MD                    | ----- | 02    | 02    | 04    |    |
|    |                     | BE(A)       | AUTO-I                | ----- | 02    | 03    | 06    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 15 | Mr. A. V. Rajput    | SE (A)      | CG                    | 01    | 02    | 03    | 06    | 20 |
|    |                     | SE (B)      | CG                    | 01    | 02    | 03    | 06    |    |
|    |                     | BE (A)      | CAD/CAM               | ----- | 02    | 01    | 02    |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |
| 16 | Mr. A. J. Puri      | TE(B)       | Manufacturing Process | 03    | 02    | 04    | 08    | 20 |
|    |                     | TE(A)       | Manufacturing Process | ----- | 02    | 01    | 02    |    |
|    |                     | TE (B)      | PPTD                  | 03    | ----- | ----- | ----- |    |
|    |                     | BE          | Seminar-II            | ----- | ----- | ----- | 02    |    |
|    |                     | BE          | Project-I             | ----- | ----- | ----- | 02    |    |

|    |                 |         |                |       |       |       |       |    |
|----|-----------------|---------|----------------|-------|-------|-------|-------|----|
| 17 | Mr. T.G. Patil  | BE (A)  | RAC            | 03    | 02    | 04    | 08    | 20 |
|    |                 | BE (B)  | RAC            | 03    | ----- | ----- | ----- |    |
|    |                 | SE(B)   | Thermodynamics | ----- | 02    | 01    | 02    |    |
|    |                 | BE      | Seminar-II     | ----- | ----- | ----- | 02    |    |
|    |                 | BE      | Project-I      | ----- | ----- | ----- | 02    |    |
| 18 | Mr. A.D. Sardar | BE(IND) | ERT            | 03    | ----- | ----- | ----  | 15 |
|    |                 | BE (B)  | RAC            | ----- | 02    | 04    | 08    |    |
|    |                 | SE(B)   | Thermodynamics | ----- | 02    | 02    | 04    |    |
| 19 | Mr. S.M. Arbat  | TE (A)  | HT             | ----- | 02    | 03    | 06    | 16 |
|    |                 | TE (B)  | HT             | ----- | 02    | 02    | 04    |    |
|    |                 | TE (B)  | MD             | ----- | 02    | 01    | 02    |    |
|    |                 | FE (D)  | EG             | ----- | 02    | 01    | 02    |    |
|    |                 | FE (E)  | EG             | ----- | 02    | 01    | 02    |    |
| 20 | Mr. T.D. Tayade | FE (E)  | EG             | 03    | 02    | 01    | 02    | 13 |
|    |                 | FE (C)  | EG             | ----- | 02    | 02    | 04    |    |
|    |                 | TE (A)  | MD             | ----- | 02    | 01    | 02    |    |
|    |                 | TE (B)  | MD             | ----- | 02    | 01    | 02    |    |
| 21 | Mr. S.B. Shaikh | FE (B)  | EG             | ----- | 02    | 02    | 04    | 12 |
|    |                 | SE(A)   | Thermodynamics | ----- | 02    | 01    | 02    |    |
|    |                 | FE (A)  | EG             | ----- | 02    | 01    | 02    |    |
|    |                 | FE (D)  | EG             | ----- | 02    | 01    | 02    |    |
|    |                 | FE (E)  | EG             | ----- | 02    | 01    | 02    |    |

Head of the Department



**Shram Sadhana Bombay Trust's**  
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**DEPARTMENT OF MECHANICAL ENGINEERING**  
**TEACHING LOAD DISTRIBUTION**

**Academic Year 2019 – 20 (Term – II) (10.12.2019)**

| Sr. No. | Name of the Faculty Member | Class    | Name of the Course | TH in Hrs. | PR in Hrs.     |                |               | Total in Hrs. |
|---------|----------------------------|----------|--------------------|------------|----------------|----------------|---------------|---------------|
|         |                            |          |                    |            | Hrs. per Batch | No. of Batches | Total in Hrs. |               |
| 1       | Dr. S. P. Shekhawat        | S.E. (A) | I.E.D.P.           | 03         | -----          | -----          | -----         | 06            |
|         |                            | S.E. (B) | I.E.D.P.           | 03         | -----          | -----          | -----         |               |
| 2       | Mr. N. K. Patil            | S.E. (A) | M.Q.C. Lab.        | 01         | 02             | 01             | 02            | 16            |
|         |                            | S.E. (B) | M.Q.C. Lab.        | 01         | 02             | 01             | 02            |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |
| 3       | Mr. K. Shrivastava         | F.E. (F) | E.G.               | 03         | 02             | 01             | 02            | 20            |
|         |                            | S.E. (A) | F.M.& F.M.         | 03         | 02             | 01             | 02            |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |
| 4       | Mr. M.V. Rawlani           | F.E. (G) | E.G.               | 03         | 02             | 01             | 02            | 18            |
|         |                            | S.E. (A) | I.Ecom.            | 03         | -----          | -----          | -----         |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |
| 5       | Dr. P. G. Damle            | F.E. (H) | E.G.               | 03         | 02             | 01             | 02            | 18            |
|         |                            | B.E. (A) | Auto. Engg.-II     | 03         | -----          | -----          | -----         |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |
| 6       | Mr. D. B. Sadaphale        | T.E. (A) | M.E.               | 03         | 02             | 01             | 02            | 20            |
|         |                            | S.E. (A) | F.M.& F.M.         | 03         | 02             | 01             | 02            |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |
| 7       | Mr. P. N. Ulhe             | B.E. (A) | M.V.               | 03         | 02             | 01             | 02            | 20            |
|         |                            | B.E. (B) | M.V.               | 03         | 02             | 01             | 02            |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |
| 8       | Mr. P. M. Solanki          | B.E. (A) | F.E.A. & S.T.      | 03         | 02             | 01             | 02            | 20            |
|         |                            | B.E. (B) | F.E.A. & S.T.      | 03         | 02             | 01             | 02            |               |
|         |                            | T.E.     | Minor Project      | -----      | -----          | -----          | 06            |               |
|         |                            | B.E.     | Project-II         | -----      | -----          | -----          | 04            |               |

|    |                     |             |                |       |       |       |       |    |
|----|---------------------|-------------|----------------|-------|-------|-------|-------|----|
| 9  | Mr. P. D. Patil     | B.E. (A)    | P.P.E.         | 03    | 02    | 01    | 02    | 20 |
|    |                     | B.E. (B)    | P.P.E.         | 03    | 02    | 01    | 02    |    |
|    |                     | T.E.        | Minor Project  | ----- | ----- | ----- | 06    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 10 | Mr. M. V. Kulkarni  | T.E. (A)    | P.E.           | 03    | ----- | ----- | ----- | 21 |
|    |                     | T.E.(Elec.) | P.P.E.         | 03    | ----- | ----- | ----- |    |
|    |                     | B.E. (B)    | P.P.E.         | ----- | 02    | 01    | 02    |    |
|    |                     | T.E.        | Minor Project  | ----- | ----- | ----- | 06    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 11 | Mr. A. R. Bhardwaj  | F.E. ( )    | W.P.           | 04    | ----- | ----- | ----- | 19 |
|    |                     | T.E. (B)    | M.T.           | 03    | 02    | 04    | 08    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 12 | Mr. D. C. Talele    | T.E. (A)    | K. & T.O.M.    | 03    | 02    | 03    | 06    | 22 |
|    |                     | T.E. (B)    | K. & T.O.M.    | 03    | 02    | 03    | 06    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 13 | Dr. P.P. Bornare    | T.E. (A)    | I.C.E.         | 03    | ----- | ----- | ----- | 22 |
|    |                     | B.E. (B)    | Auto. Engg.-II | 03    | ----- | ----- | ----- |    |
|    |                     | S.E. (A)    | M.Q.C. Lab.    | ----- | 02    | 02    | 04    |    |
|    |                     | S.E. (B)    | M.Q.C. Lab.    | ----- | 02    | 02    | 04    |    |
|    |                     | B.E. (B)    | P.P.E.         | ----- | 02    | 02    | 04    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 14 | Mr. C. K. Mukherjee | S.E. (B)    | I. Ecom.       | 03    | ----- | ----- | ----- | 22 |
|    |                     | T.E. (B)    | P.E.           | 03    | ----- | ----- | ----- |    |
|    |                     | T.E. (A)    | M.E.           | ----- | 02    | 03    | 06    |    |
|    |                     | T.E. (B)    | M.E.           | ----- | 02    | 01    | 02    |    |
|    |                     | B.B.A.      | B.B.A.-I       | 04    | ----- | ----- | ----- |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 15 | Mr. A. V. Rajput    | F.E. (I)    | E.G.           | 04    | 02    | 03    | 06    | 21 |
|    |                     | T.E. (A)    | I.C.E.         | 03    | ----- | ----- | ----- |    |
|    |                     | F.E. ( )    | E.G.           | ----- | 02    | 02    | 04    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 16 | Mr. A. J. Puri      | T.E. (A)    | M.T.           | 03    | 02    | 04    | 08    | 22 |
|    |                     | T.E. (B)    | M.E.           | 03    | 02    | 02    | 04    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 17 | Mr. T.G. Patil      | S.E. (A)    | A.T.           | 04    | 02    | 03    | 06    | 22 |
|    |                     | S.E. (B)    | A.T.           | 04    | 02    | 02    | 04    |    |
|    |                     | B.E.        | Project-II     | ----- | ----- | ----- | 04    |    |
| 18 | Mr. A.D. Sardar     | S.E. (B)    | A.T.           | ----- | 02    | 01    | 02    | 14 |
|    |                     | B.E. (A)    | P.P.E.         | ----- | 02    | 03    | 06    |    |
|    |                     | B.E. (A)    | M.V.           | ----- | 02    | 03    | 06    |    |
| 19 | Mr. S.M. Arbat      | F.E. ( )    | E.G.           | ----- | 02    | 02    | 04    | 14 |
|    |                     | F.E. ( )    | E.G.           | ----- | 02    | 02    | 04    |    |
|    |                     | B.E. (B)    | M.V.           | ----- | 02    | 03    | 06    |    |

|    |                 |          |               |       |    |    |    |    |
|----|-----------------|----------|---------------|-------|----|----|----|----|
| 20 | Mr. T.D. Tayade | T.E. (B) | M.E.          | ----- | 02 | 01 | 02 | 12 |
|    |                 | S.E. (A) | F.M.& F.M.    | ----- | 02 | 02 | 04 |    |
|    |                 | S.E. (B) | F.M.& F.M.    | ----- | 02 | 02 | 04 |    |
|    |                 | T.E. (B) | K. & T.O.M.   | ----- | 02 | 01 | 02 |    |
|    |                 |          |               |       |    |    |    |    |
| 21 | Mr. S.B. Shaikh | B.E. (A) | F.E.A. & S.T. | ----- | 02 | 03 | 06 | 14 |
|    |                 | B.E. (B) | F.E.A. & S.T. | ----- | 02 | 03 | 06 |    |
|    |                 | T.E. (A) | K. & T.O.M.   | ----- | 02 | 01 | 02 |    |

Head of the Department



**Shram Sadhana Bombay Trust's**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
**Grade B++ (2.91) NAAC Accredited**

**DEPARTMENT OF BUSINESS ADMINISTRATION (M.B.A.)**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – I) (SEM-I & III)**

| Sr. No. | Faculty            | Class  | Name of the Course                            | TH (Hrs)  | Project (Hrs) | PR in Hrs.     |                |             | Total (Hrs) |
|---------|--------------------|--------|---|-----------|---------------|----------------|----------------|-------------|-------------|
|         |                    |        |   |           |               | Hrs. per Batch | No. of Batches | Total (Hrs) |             |
| 1       | Dr. V. S. Rana.    | MBA-I  | 107: Corporate Social Responsibility          | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 306 B: Sales and Distribution                 | 4         |               |                |                |             |             |
|         |                    | MBA-II | 307 B: Global Marketing Management            | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 2       | Dr. S. B. Patil    | MBA-I  | 102: Corporate Communication Skills           | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 305 C: Human Capital Management & Development | 4         |               |                |                |             |             |
|         |                    | MBA-II | 306 C: Strategic Human Resource Management    | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 3       | Dr. R. A. Modiyani | MBA-I  | 105: Business Accounting and Costing          | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 301: Strategic Management                     | 4         |               |                |                |             |             |
|         |                    | MBA-II | 306 A: Strategic Financial Management         | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 4       | Mr. M. B. Ahirrao  | MBA-I  | 103: Managerial Economics                     | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 304 A: Banking and Investment Mgt             | 4         |               |                |                |             |             |
|         |                    | MBA-II | 307 A: Tally and Advanced Excel               | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 5       | Ms. F. A. Kazi     | MBA-I  | 101: Management Science                       | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 302: Management Information Systems           | 4         |               |                |                |             |             |
|         |                    | MBA-II | 304 C: Industrial Relations and Labor Welfare | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 6       | Ms. S. Y. Sonar    | MBA-I  | 106: Organizational Behavior -I               | 4         |               |                |                |             | 20          |
|         |                    | MBA-II | 303: Legal Aspects Of Business                | 4         |               |                |                |             |             |
|         |                    | MBA-II | 305 A: Tax Management                         | 4         |               |                |                |             |             |
|         |                    | MBA-II | 307 C: Labor Laws                             | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 7       | Ms. P. K. Patil    | MBA-I  | 104: Human Resource Management                | 4         |               |                |                |             | 20          |
|         |                    | MBA-I  | 108: Statistics and Quantitative Methods      | 4         |               |                |                |             |             |
|         |                    | MBA-II | 304 B: Product and Brand Management           | 4         |               |                |                |             |             |
|         |                    | MBA-II | 305 B: Consumer Behavior & Service Marketing  | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
|         |                    |        | <b>Total</b>                                  | <b>92</b> | <b>28</b>     |                |                | <b>0</b>    | <b>120</b>  |

**Head of the Department**





**Shram Sadhana Bombay Trust's**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
 BAMBHORI, POST BOX NO. 94, JALGAON – 425001 (M.S.)  
Included under section 2 (f) & 12 (B) of the UGC Act, 1956  
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**DEPARTMENT OF BUSINESS ADMINISTRATION (M.B.A.)**  
**TEACHING LOAD DISTRIBUTION**  
**Academic Year 2019 – 20 (Term – I) (SEM-I & III)**

| Sr. No. | Faculty            | Class  | Name of the Course                            | TH (Hrs)  | Project (Hrs) | PR in Hrs.     |                |             | Total (Hrs) |
|---------|--------------------|--------|---|-----------|---------------|----------------|----------------|-------------|-------------|
|         |                    |        |   |           |               | Hrs. per Batch | No. of Batches | Total (Hrs) |             |
| 1       | Dr. V. S. Rana.    | MBA-I  | 107: Corporate Social Responsibility          | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 306 B: Sales and Distribution                 | 4         |               |                |                |             |             |
|         |                    | MBA-II | 307 B: Global Marketing Management            | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 2       | Dr. S. B. Patil    | MBA-I  | 102: Corporate Communication Skills           | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 305 C: Human Capital Management & Development | 4         |               |                |                |             |             |
|         |                    | MBA-II | 306 C: Strategic Human Resource Management    | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 3       | Dr. R. A. Modiyani | MBA-I  | 105: Business Accounting and Costing          | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 301: Strategic Management                     | 4         |               |                |                |             |             |
|         |                    | MBA-II | 306 A: Strategic Financial Management         | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 4       | Mr. M. B. Ahirrao  | MBA-I  | 103: Managerial Economics                     | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 304 A: Banking and Investment Mgt             | 4         |               |                |                |             |             |
|         |                    | MBA-II | 307 A: Tally and Advanced Excel               | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 5       | Ms. F. A. Kazi     | MBA-I  | 101: Management Science                       | 4         |               |                |                |             | 16          |
|         |                    | MBA-II | 302: Management Information Systems           | 4         |               |                |                |             |             |
|         |                    | MBA-II | 304 C: Industrial Relations and Labor Welfare | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 6       | Ms. S. Y. Sonar    | MBA-I  | 106: Organizational Behavior -I               | 4         |               |                |                |             | 20          |
|         |                    | MBA-II | 303: Legal Aspects Of Business                | 4         |               |                |                |             |             |
|         |                    | MBA-II | 305 A: Tax Management                         | 4         |               |                |                |             |             |
|         |                    | MBA-II | 307 C: Labor Laws                             | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
| 7       | Ms. P. K. Patil    | MBA-I  | 104: Human Resource Management                | 4         |               |                |                |             | 20          |
|         |                    | MBA-I  | 108: Statistics and Quantitative Methods      | 4         |               |                |                |             |             |
|         |                    | MBA-II | 304 B: Product and Brand Management           | 4         |               |                |                |             |             |
|         |                    | MBA-II | 305 B: Consumer Behavior & Service Marketing  | 4         |               |                |                |             |             |
|         |                    | MBA-II | 308: Field Work / Survey                      |           | 4             |                |                |             |             |
|         |                    |        | <b>Total</b>                                  | <b>92</b> | <b>28</b>     |                |                | <b>0</b>    | <b>120</b>  |

**Head of the Department**

### **Internal Continuous Evaluation System in place**

The internal continuous evaluation system in place at this college level is done as per University guidelines currently enforce/ received before the start of term. The schedule for, performance of practicals is notified on the departmental lab notice board. This schedule is batchwise and it also indicates the completion/ submission date of practical, drawing and assignment sheets. It is meant for those subjects for whom term work marks are to be sent to the University.

The attendance record of the students is maintained in ERP software and in the register meant for this purpose. This register also evaluates the performance of the students under the following headings:

- a) Attendance in class/practical
- b) Performance in class/practical
- c) Class tests/ viva voce
- d) Assignment/ Journal

The above are quantified and marks are awarded in the next week, displayed and consolidated at the end of term. At term end the term work assessment programme is displayed and the work is evaluated by two faculty members who are appointed by the Principal and the term work marks are forwarded to the University under the signature of both the examiners.



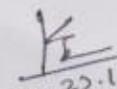
### **Students' assessment of Faculty, System in place.**

. During the 5<sup>th</sup> week of the term the feedback by the students is taken subject wise for the staff who teach them. A set of questionnaire is circulated them and feedback is obtained. This feedback is taken by academic monitoring committee comprising of three HOD's and Coordinator of Academic and Research and Development. The feedback is submitted to the Principal and he apprises the faculty member about their weak points and they are given the opportunity to improve upon their deficiencies and their weak points during the term itself.

Also during the term, students are free to pass on the difficulties through suggestion boxes kept at various location and if they are related to their academic difficulties, their difficulties are solved and the concerned faculty is advised by the Principal with sole aim of improvement in academics. Personal hearing is given by Coordinator of Academics and Research and Development and the Principal.

# SSBT's COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

| Audited Statement of Account for the year 2016-17 (Income & Expenditure Statement for Complete year) |  |              |             |  |              |
|--|--|--------------|-------------|--|--------------|
| Income   |  |              | Expenditure |  |              |
| Sl.No.   | Details  | Amount       | Sl.No.      | Details  | Amount       |
| 1  | Tuition Fees   | 18,46,69,228 | 1           | Salary   | 11,83,28,125 |
| 2  | Other fee/ amount collected from students            | 1,72,12,740  | 2           | Administrative expenses  | 83,15,268    |
| 3  | Grants from Govt./ Private agencies                  | 6,81,355     | 3           | Training and Development   | 5,17,685     |
| 4  | Grants/ Contribution from other sources (Management) | ---          | 4           | Laboratory Consumables   | 21,94,309    |
| 5  | Scholarships received                                | ---          | 5           | Library  | 7,35,576     |
| 6  | Other Income   | 91,64,232    | 6           | Travel   | 5,68,412     |
|  |  |              | 7           | Fees Paid to University/ Board/ Government/ AICTE/ UGC   | 11,72,025    |
|  |  |              | 8           | Repairs and Maintenance  | 54,17,925    |
|  |  |              | 9           | Scholarships/ Concessions/ Fellowships/ Honorarium etc., awarded / incurred (other than Govt.grants) | 2,70,750     |
|  |  |              | 10          | Expenditure of grants received from Govt./ Private agencies  | 6,21,684     |
|  |  |              | 11          | Depreciation   | 1,13,68,189  |
|  |  |              | 12          | Any other expenditure  | 4,25,56,324  |
| Total  |  | 21,17,27,555 | Total       |  | 19,20,66,272 |


  
 22.12.17  
 Principal

**PRINCIPAL**

SSBT's College of Engg. & Technology  
Bambhori, Jalgaon-425061 (M.S.)



For R.N. KHAIRNAR & Co.  
CHARTERED ACCOUNTANTS

  
 R.N. KHAIRNAR  
 PROPRIETOR  
 M.No. 048440  
 22.12.17



# *R. N. Khairnar & CO.,*

## **CHARTERED ACCOUNTANTS**

267, "OM" BUILDING, BALIRAM PETH, JALGAON 425 001 [M S]  
PHONE NO (0257) 2220890, 2232374  
Email :rnkcas@yahoo.co.in

## **AUDIT REPORT**

|                      |  |
|----------------------|--|
| NAME OF THE ASSESSEE | SSBT'S COLLEGE OF ENGINEERING & TECHNOLOGY |
| ADDRESS              | AT & POST BAMBHORI<br>JALGAON - 425 001    |
| FINANCIAL YEAR       | ENDED ON 31ST MARCH, 2017.                 |

**RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON**

**AUDITOR'S REPORT**

We have examined the attached Balance Sheet of **RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON** as at **31st March, 2017** along with the Income and Expenditure Account for the year ended on that date, which are in agreement with the books of accounts maintained.

- 1) The proper books of Account are kept by the Institutions including that of each segment.
- 2) The Institution has followed Mercantile (accrual) system of accounting. The same system of accounting was followed by the Institute in immediate preceding previous year.
- 3) We have obtained all the information and explanations which to the best of our knowledge and belief, were necessary for the purposes of the audit and for determination of fees by the Authority.
- 4) The Accounts of the Institute are submitted by following Accounting Standard 17 or equivalent Ind AS and certified by us as true and fair representation of segmental reporting. The segment being every course for which the approval of the fees is sought before the Authority.
- 5) The Institute has maintained separate set of books of accounts for each segment.
- 6) In our opinion, and to the best of our information and according to explanations given to us, subject to remarks attached herewith, the said accounts, give a true and fair view :
  - (i) in the case of the balance sheet, of the state of the affairs of the Institute and segment as at 31st March, 2017 and
  - (ii) in the case of the income and expenditure account, of the Surplus of the institutes and segment for the year ended on that date.

PLACE : JALGAON

DATED : 3rd Oct., 2017



For: R. N. KHAIARNAR & CO  
(Chartered Accountants)

(R.N. KHAIARNAR)  
PROPRIETOR  
M.NO.048440

SHRAMA SADHANA BOMBAY TRUST'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

INCOME AND EXPENDITURE for the year ending 31<sup>st</sup> March, 2017

| 31/03/2016   | EXPENDITURE                               | 31/03/2017   | 31/03/2016   | INCOME                              | 31/03/2017   |
|--------------|---|--------------|--------------|-------------------------------------|--------------|
| 105604234.00 | To Salary Exp.                            | 112569779.00 | 166328475.00 | By Tuition Fee                      | 174238697.00 |
| 1356937.00   | To Library Exp. (List-02)                 | 735578.00    | 13111682.00  | By Other Income (List-10)           | 10187337.77  |
| 23552419.00  | To Other College Estab. Exp. (List-03)    | 33360693.72  | 18186807.00  | By Student Fee (List-11)            | 15445972.00  |
| 6150901.00   | To Repair & Maintenance (List-04)         | 5417925.00   | 6768694.00   | STUDENT FEE-MBA STUDENT (List-11-A) | 6329077.00   |
| 10395512.00  | To Administrative Exp. (List-01)          | 8683680.67   | 9604391.00   | STUDENT FEE-ME STUDENT (List-11-B)  | 5626572.00   |
| 1383623.00   | To Sport Exp. (List-06)                   | 1524113.00   |              |                                     |              |
| 1888079.00   | To Work-Shop & Laboratory Exp. (List-07)  | 2194309.00   |              |                                     |              |
| 4836501.88   | To Student Act Culture & Welfare (List-8) | 4052859.00   |              |                                     |              |
| 6186443.00   | To Academic Exp. (List-5)                 | 4710756.00   |              |                                     |              |
| 14519541.60  | To Depreciation Exp. (List-9)             | 11265713.15  |              |                                     |              |
| 4568695.00   | ME EXP. (Schedule-9-A)                    | 3232146.84   |              |                                     |              |
| 3807167.00   | MBA. (Schedule-9-B)                       | 4109721.00   |              |                                     |              |
| 183264053.26 | Total Expenditure                         | 192086272.38 |              |                                     |              |
| 31932995.74  | To Surplus tr. To Balance-Sheet           | 16661283.39  |              |                                     |              |
| 218197049.00 | Total :-                                  | 211727555.77 | 215197049.00 | Total :-                            | 211727555.77 |

FOR: COLLEGE OF ENGINEERING AND TECHNOLOGY  
BAMBHORI, JALGAON

AS PER OUR REPORT EVEN DATE ATTACHED  
FOR R.N.KHAIRNAR & Co.  
CHARTERED ACCOUNTANTS

PRINCIPAL

TRUSTEE

PLACE : JALGAON  
DATED: 3rd Oct., 2017

SSBT's College of Engg. & Technology  
Bambhori, Jalgaon-425001(M.S.)

(R.N.KHAIRNAR)  
PROPRIETOR  
M.NO.48440





**SHRAMA SADHANA BOMBAY TRUSTs**  
**COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON**

BALANCE-SHEET As At 31<sup>st</sup> March, 2017

| 31/03/2016   | LIABILITIES                        | 31/03/2017   | 31/03/2016   | ASSETS   | 31/03/2017   |
|--------------|------------------------------------|--------------|--------------|--|--------------|
| 10496608.50  | Ear Marked Fund (List-12)          | 105414492.03 | 12452018.57  | Immovable Property (List-15)                   | 13540633.53  |
| 7092067.00   | Sundry Deposit (List-13)           | 7553016.00   | 60597472.26  | Movable Property (List-16)                     | 51493482.36  |
| 9605382.00   | Current Liabilities (List-14)      | 9721135.00   | 46562784.00  | Investments (List-17)                          | 68562784.00  |
| 44863030.00  | Advance Fee of April-17 to June-17 | 54160323.00  | 1745907.00   | Deposits (List-18)                             | 1756907.00   |
| 13958831.00  | Payable Exp.                       | 13476169.00  |              | <b>CURRENT ASSET &amp; LOAN &amp; ADVANCES</b> |              |
| 23746335.54  | Internal A/c (List-23)             | 31226018.54  | 1137167.72   | Party Advance (List-19)                        | 129766.00    |
|              | Income and Expenditure A/c:        |              | 451697.62    | Staff Members Advance                          | 537809.82    |
|              | Op. Bal.                           | 50403148.83  | 6503771.25   | Receivables (List-20)                          | 8211025.25   |
| 50403148.6   | Add: Cur. Yr. Surplus              | 19661283.39  | 104918995.00 | Student Fee Receivable                         | 131820994.00 |
|              |                                    | 70084430.22  | 558090.00    | Internal Section A/c (List-21)                 | 747154.00    |
|              |                                    |              | 4499.00      | Cash Balance                                   | 2691.00      |
|              |                                    |              | 19594837.08  | Bank Balance (List-22)                         | 14990258.24  |
|              |                                    |              |              | Income and Expenditure A/c:                    |              |
|              | Notes to Accounts - Sch-           |              |              |  |              |
| 254535238.70 | <b>Total :-</b>                    | 291605585.39 | 254535238.70 | <b>Total :-</b>                                | 291605585.39 |

FOR: COLLEGE OF ENGINEERING AND TECHNOLOGY  
BAMBHORI, JALGAON

*[Signature]*

PRINCIPAL

SSBT's College of Engg. & Technology  
Bambhori, Jalgaon-425001(M.S.)

TRUSTEE

PLACE: JALGAON  
DATED: 3rd Oct. 2017

AS PER OUR REPORT EVEN DATE ATTACHED  
FOR R.N. KHARNAR & Co  
CHARTERED ACCOUNTANTS

(R.N. KHARNAR)  
PROPRIETOR  
M.NO.48440





**COLLEGE OF ENGINEERING & TECH. BAMBHORI JALGAON**

**GROUP SUMMARY OF INDIRECT EXP As On-31/03/2017**

| <b>PARTICULARS</b>                          | <b>Amount</b>     |
|---|-------------------|
| <b>ADMINISTRATIVE EXP:- (LIST-1)</b>        |                   |
| Audit Fee                                   | 117925.00         |
| D.D./Cheque Clearing & Bank Service Charges | 42405.67          |
| Local Conveyance Charges For Office work    | 68189.00          |
| Labour Payment                              | 261124.00         |
| Electric Bill (MSEB)                        | 3812884.00        |
| Canteen & Mess Exp for Staff                | 159137.00         |
| Examination Expenses                        | 137403.00         |
| Generator Exp.                              | 243028.00         |
| Water Bill (Girna)                          | 59409.00          |
| Water Supply Exp.                           | 434231.00         |
| Meeting Exp.                                | 40042.00          |
| Misc. Expenses                              | 29316.00          |
| Office Expenses                             | 245720.00         |
| Postage & Telegram                          | 22404.00          |
| Printing & Stationary                       | 930927.00         |
| Professional Charges                        | 75139.00          |
| Telephone & Mobile Bill                     | 331417.00         |
| Transport Charges                           | 18260.00          |
| T.A.D.A.Exp.for Office Work                 | 568412.00         |
| Vehical Tax & Insurance                     | 854056.00         |
| Vehical Fuel Exp.                           | 301943.00         |
| Zerox Exp.                                  | 130309.00         |
| <b>TOTAL:-</b>                              | <b>8883680.67</b> |

| <b>LIBRARY Exp. (LIST-2)</b>                                  | <b>Amount</b>    |
|---|------------------|
| Library Exp.  | 103224.00        |
| Magazine, Journals , E-Journals, Periodicals & Other Lib.Exp. | 590090.00        |
| News Paper Exp.   | 42262.00         |
| <b>TOTAL</b>  | <b>735576.00</b> |



| OTHER COLLEGE ESTABLISHMENT EXP.(LIST-3)                        |  | Amount              |
|---|--|---------------------|
| Financial Aid to Poor Students Under College Scholarship Scheme |  | 270750.00           |
| Hospitality Exp.  |  | 22500.00            |
| Electrical Exp.   |  | 590611.00           |
| Fabrication, Welding & fitting Exp.                             |  | 396916.00           |
| Rain Water & Reuse of Water                                     |  | 169533.00           |
| Fee Regulating Authority Fee                                    |  | 219248.00           |
| Admission Process Fee To ARA                                    |  | 263800.00           |
| Sanetary Exp.   |  | 628992.00           |
| Building Rent   |  | 24183953.00         |
| Antivirus Purchasing  |  | 45350.00            |
| Tree Plant & Lawn Exp.  |  | 428070.00           |
| Class Room Development Exp.                                     |  | 780000.00           |
| Flex & Hoarding Exp.  |  | 386297.00           |
| Colouring Exp.  |  | 1459008.00          |
| Guest House Exp.  |  | 94647.00            |
| Open Air Theater Exp  |  | 20000.00            |
| Name Plate & Board Exp.   |  | 122465.00           |
| Advertisement Exp.  |  | 1977926.72          |
| Fire-Control Exp  |  | 39930.00            |
| Parking Exp   |  | 838006.00           |
| Campus Cleaning and College Development Exp.                    |  | 431691.00           |
| <b>TOTAL</b>  |  | <b>33369693.72</b>  |
| REPAIR & MAINT. (LIST-4)  |  | Amount              |
| Building Rep. & Maint.  |  | 971998.00           |
| Retaining Wall Maint.   |  | 223697.00           |
| Old Weak Security Wall Rep.& Maint.                             |  | 561038.00           |
| Road Repair & Maint.  |  | 985507.00           |
| Electrical Instrument Repairing Exp.                            |  | 256126.00           |
| Furniture Repair & Maint.                                       |  | 493124.00           |
| Toilet Block Repair & Maint.                                    |  | 804531.00           |
| Other Assets Repair & Maint.                                    |  | 146668.00           |
| Street Light Repairing Exp.                                     |  | 57002.00            |
| Main Building Outside Minor Repairing Exp                       |  | 918234.00           |
| <b>TOTAL:-</b>  |  | <b>5417925.00</b>   |
| SALARY EXP.   |  | Amount              |
| PF Administrative Charges                                       |  | 442131.00           |
| Basic Pay:  |  | 56399901.00         |
| D.A.  |  | 26999227.00         |
| Family Pension  |  | 3654186.00          |
| H.R.A.  |  | 4545219.00          |
| Salary Increment & Other Payment.                               |  | 708780.00           |
| Link Insurance  |  | 219278.00           |
| P.F. (Employee)   |  | 1205402.00          |
| Regional Insurance  |  | 4018.00             |
| Security Service Contract                                       |  | 2286552.00          |
| Special Allowance   |  | 156929.00           |
| Visiting Lecturer Remuneration                                  |  | 49000.00            |
| L.I.C.Gratuity Scheme Premium                                   |  | 2808242.00          |
| EL Encashment   |  | 570904.00           |
| Annual Grade Pay  |  | 10647249.00         |
| Increment Arrears   |  | 1872761.00          |
| <b>TOTAL</b>  |  | <b>112569779.00</b> |





| Academic Exp. (LIST-5)                      | Amount            |
|---|-------------------|
| Admission & Education Fare                  | 923680.00         |
| AICTE Fee                                   | 100000.00         |
| Registration & Affiliation Fee              | 320000.00         |
| Faculty Training Exp                        | 220400.00         |
| NAAC Exp.                                   | 528516.00         |
| SST Research Pramotion Scheme               | 89442.00          |
| Work-shop & Seminar Fee                     | 69600.00          |
| Office Computer Software Maint.             | 91125.00          |
| Staff Welfare & Incentive                   | 415035.00         |
| IEDC Student Project Exp.                   | 403484.00         |
| Remuneration & Contingency Exp (IEDC Staff) | 218200.00         |
| Bio-Tech Kisan Project                      | 16884.00          |
| CSI Membership Fee                          | 18400.00          |
| Lab Development Exp.                        | 1264000.00        |
| National Safety Council                     | 3252.00           |
| Staff Recruitment Exp.                      | 28738.00          |
| <b>TOTAL</b>                                | <b>4710756.00</b> |

| Sport Exp. (LIST-6) | Amount            |
|---------------------|-------------------|
| Play ground Exp.    | 365911.00         |
| Pro-Rata Fees       | 59200.00          |
| Sport Activity Exp. | 1099002.00        |
| <b>TOTAL</b>        | <b>1524113.00</b> |

| Workshop & Laboratory Exp.(List-7) | Amount            |
|------------------------------------|-------------------|
| Applied Science Exp.               | 95063.00          |
| Bio Tecnolonyg Exp.                | 153034.00         |
| Chemical Lab Exp.                  | 143503.00         |
| Civil Lab Exp.                     | 58031.00          |
| Computer Lab Exp.                  | 161691.00         |
| Electrical lab Exp.                | 92207.00          |
| Electronics Lab Exp.               | 102770.00         |
| I.T.Lab Exp.                       | 51316.00          |
| Mechanical Lab Exp.                | 91476.00          |
| Workshop Exp.                      | 197850.00         |
| Bio-Gas Plant                      | 24332.00          |
| Microsoft Campus Agreement         | 310778.00         |
| Centralised Computer Maint.        | 239300.00         |
| Centralised Networking Exp.        | 472958.00         |
| <b>TOTAL</b>                       | <b>2194309.00</b> |



| Student Activity ,Culturur & Welfare Sec.(list-8) | Amount            |
|---|-------------------|
| Internet Exp.                                     | 1409380.00        |
| Medical Aid                                       | 159206.00         |
| Parents Meeting Exp.                              | 59967.00          |
| Alumni Exp.                                       | 29561.00          |
| Student Activity ,Culturur & incentive Exp.       | 388068.00         |
| Training Placement Exp.                           | 297285.00         |
| Project Exhibition & Student Project Exp.         | 32400.00          |
| Student Counseling                                | 194231.00         |
| Earn & Learn Scheme                               | 44110.00          |
| Gatharing Exp.                                    | 346791.00         |
| Yuvarang Exp.                                     | 152035.00         |
| Web-Site Exp                                      | 76303.00          |
| Feast Exp.  | 499993.00         |
| SAE Club Activities                               | 57500.00          |
| MILe Stone-2017                                   | 48046.00          |
| HACKATHON New Delhi                               | 27575.00          |
| Robo-Con Competition                              | 59500.00          |
| Debet Competition                                 | 10400.00          |
| Baja Event  | 160528.00         |
| <b>TOTAL</b>                                      | <b>4052859.00</b> |

| Depreciation Exp.(list-9)             |             |
|---------------------------------------|-------------|
| Depreciation on Immovable Property    | 683325.81   |
| Depreciation on Machinery & Equipment | 10582387.34 |
|                                       | 11265713.15 |

| ME EXP. (Shedule-9-A)              |                   |
|------------------------------------|-------------------|
| Salary Exp.                        | 2601641.00        |
| ME Project Remuneration            | 153000.00         |
| Affiliation Fee                    | 150000.00         |
| Advertisement Exp.                 | 221732.00         |
| Electric Bill                      | 32553.00          |
| Fee Regulating Authority Fee       | 6777.00           |
| Admission Regulating Authority Fee | 35300.00          |
| Depreciation Exp.                  | 31143.84          |
| <b>TOTAL:-</b>                     | <b>3232146.84</b> |

| MBA. (Shedule-9-B)                 |                   |
|------------------------------------|-------------------|
| Salary Exp.                        | 3156705.00        |
| Affiliation Fee                    | 40000.00          |
| Electric Bill                      | 46701.00          |
| Advertisement Exp                  | 221732.00         |
| Depreciation Exp.                  | 71333.00          |
| Fee Regulating Authority Fee       | 5500.00           |
| Admission Regulating Authority Fee | 31400.00          |
| Sanitary Exp                       | 180000.00         |
| Student Activity Exp.              | 60000.00          |
| Staff Welfare Exp.                 | 160000.00         |
| Other Exp.                         | 136350.00         |
| <b>TOTAL:-</b>                     | <b>4109721.00</b> |





| OTHER INCOME (LIST-10)                         |                    |
|--|--------------------|
| Bank Interest                                  | 5941834.00         |
| Other Misc. Income                             | 994549.77          |
| Bus Conveyance Charges                         | 320667.00          |
| Attendance & Other Fine                        | 434602.00          |
| On-Line Exam Fee                               | 14055.00           |
| Remission A/c                                  | 165189.00          |
| IEDC Grant NSTEDB, DST New Delhi               | 681355.00          |
| Digital Valuation Center                       | 623559.00          |
| Registration Fee for Inter-National Conference | 273328.00          |
| Int.received on IEDC Grant A/c                 | 27790.00           |
| Provisional Adm.Fee                            | 164000.00          |
| Laboratory Fee (Research)                      | 177750.00          |
| Sponcership Advertisement Fee                  | 15001.00           |
| Testing Consultancy Charges                    | 353658.00          |
| <b>TOTAL:-</b>                                 | <b>10187337.77</b> |

| STUDENT FEE (LIST-11)                              |                    |
|--|--------------------|
| Development Fee                                    | 12763565.00        |
| Students -Broadband, Accr., Gymnasium & Other Fees | 1004076.00         |
| University Fee                                     | 1678231.00         |
| <b>TOTAL:-</b>                                     | <b>15445872.00</b> |

**Tution Fee** 174238697.00

| STUDENT FEE-MBA STUDENT (List-11-A) |                   |
|-------------------------------------|-------------------|
| Tution Fee                          | 5498761.00        |
| Development Fee                     | 686496.00         |
| University Fee                      | 143820.00         |
| <b>TOTAL:-</b>                      | <b>6329077.00</b> |

| STUDENT FEE-ME STUDENT (List-11-B) |                   |
|------------------------------------|-------------------|
| Tution Fee                         | 4931770.00        |
| Development Fee                    | 491872.00         |
| University Fee                     | 102930.00         |
| <b>TOTAL:-</b>                     | <b>5526572.00</b> |



**COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI,  
JALGAON  
2006-17**

| ACCOUNT NAME  | AMOUNT      | AMOUNT              |
|---|-------------|---------------------|
| <b>Earmarked Fund List-12</b>                         |             |                     |
| Building Fund : Op. Bal.                              | 562471.31   |                     |
| Capital Exp. Reserved Fund: Op. Bal.                  | 38960000.00 |                     |
| College Development Fund: Op. Bal.                    | 3600000.00  |                     |
| Corpus Fund: Op. Bal.                                 | 4300000.00  |                     |
| Dep. Fund of Immovable Property 5464382.95            |             |                     |
| Add: Cur. Yr. Dep. 683325.81                          | 6147708.76  |                     |
| Development Fund : Op. Bal. 47319469.00               |             |                     |
| Add : Cur. Year                                       | 47319469.00 |                     |
| Grant from NSTEDB ,DST New Delhi: Op.Bal.             | 530000.00   |                     |
| Grant from AICTE Under MODROBS Scheme                 |             |                     |
| Op. Bal. 2525176.00                                   |             |                     |
| Add : Cur. Year                                       | 2525176.00  |                     |
| Library Book Grant : Op. Bal.                         | 386500.00   |                     |
| I.I.T.Grant   | 128897.01   |                     |
| RGSTC Grant   | 686024.55   |                     |
| Renewable Energy Club Grant: Op.Bal.                  | 11500.00    |                     |
| Minor Research Grant : Cur. Year (362000-86824-18430) | 256746.00   |                     |
|   |             | <b>105414492.63</b> |

|                                    |            |                   |
|------------------------------------|------------|-------------------|
| <b>Sudry Deposit List-13</b>       |            |                   |
| Caution Money Deposit              | 7430767.00 |                   |
| Security Deposit                   | 96116.00   |                   |
| ME Library & Caution Money Deposit | 26133.00   |                   |
|                                    |            | <b>7553016.00</b> |

|                                       |            |  |
|---------------------------------------|------------|--|
| <b>Current Liabilities List-14</b>    |            |  |
| NMU VCRPG Grant                       | 39894.00   |  |
| Withheld Salary Payment               | 1286760.00 |  |
| Hanuman Prasad Sainy                  | 14397.00   |  |
| ARC Engg. & Pharma. Exam Remuneration | 55320.00   |  |
| Excess Crdited Fee                    | 1008925.00 |  |
| Bonton Technomake P. Ltd.             | 87919.00   |  |
| Ramesh Mahadu Patil                   | 17780.00   |  |
| Jain Electrical Jalgaon               | 153623.00  |  |
| Misc. Grant                           | 14000.00   |  |
| ISF ISTE Grant                        | 25480.00   |  |
| Master Software , Nagpur              | 265125.00  |  |
| Gratuity Claim                        | 1506586.00 |  |
| Contd....                             |            |  |





| <b>Current Liabilities List-14 .. Contd...</b>   |            |                   |
|--|------------|-------------------|
| Practical Exam. Bill Payable to Staff            | 67105.00   |                   |
| Registration Fee for EAC (IEDC)                  | 60200.00   |                   |
| Registration fee for Project Exhibition (IEDC)   | 59600.00   |                   |
| Vikas Power System                               | 34666.00   |                   |
| SST Skill Dev. Fee                               | 611500.00  |                   |
| Off Line External Exam A/c                       | 17750.00   |                   |
| Excess Fee                                       | 1032151.00 |                   |
| Vijay Sahani                                     | 5000.00    |                   |
| Term Work Bill Payable                           | 520970.00  |                   |
| Sudhakar Sandu Rokade                            | 31450.00   |                   |
| Subhash M.Kapade                                 | 8192.00    |                   |
| M/s-M.S.Jain                                     | 2359363.00 |                   |
| Mrs. Sumitra S. Sharma (Mess Contractor-IIT W.S) | 62488.00   |                   |
| New Shree Jay Ambe Tent House                    | 134141.00  |                   |
| Shivdas Santosh Patil                            | 13675.00   |                   |
| Sanjay D. Bhole                                  | 70082.00   |                   |
| Testing Charge Payable                           | 63875.00   |                   |
| LIC Group  | 38118.00   |                   |
| Atul Zirafe                                      | 55000.00   |                   |
|  |            | <b>9721135.00</b> |

| <b>Investment List-17</b>                              |             |                    |
|--|-------------|--------------------|
| FD With Bank Of Maharashtra Bambhori (Short-Term)      | 61000000.00 |                    |
| FD With Bank Of Mah. Bandra                            | 1000000.00  |                    |
| FD With Bank Of Maharashtra (Joint A/c DTE & NMU Jal.) | 6562784.00  |                    |
|  |             | <b>68562784.00</b> |

| <b>Deposit List-18</b>                     |            |                   |
|--|------------|-------------------|
| Bhushan Gas Agency                         | 2000.00    |                   |
| Book Bank Deposit                          | 500.00     |                   |
| Broad Band Internet Service Deposit (BSNL) | 1500.00    |                   |
| Gas Sylender Deposit (Payal Gas)           | 23000.00   |                   |
| Internet Deposit                           | 24750.00   |                   |
| M.S.E.B. Deposit                           | 1618557.00 |                   |
| Security Deposit With BSNL A/c             | 21000.00   |                   |
| Shrish Gas Agency                          | 6815.00    |                   |
| Telephone Deposit                          | 36720.00   |                   |
| Gas Sylender Deposit (Jalgaon Gas)         | 9850.00    |                   |
| Water Supply Deposit                       | 11215.00   |                   |
|  |            | <b>1755907.00</b> |



| <b>Party Advance List-19</b>  |          |           |
|-------------------------------|----------|-----------|
| Essential Equipments          |          |           |
| M.K.Shimpi                    | 47500.00 |           |
| Yogmudra Consultany Pune      | 34788.00 |           |
| Swami Vessels PVT Ltd Jalgaon | 38728.00 |           |
|                               | 8750.00  |           |
|                               |          | 129766.00 |

| <b>Receivable List-20</b>                        |            |            |
|--|------------|------------|
| Bharatsing N.jadhav Misappropriation A/c:Op.Bal. | 209106.00  |            |
| Interest Accrued (FDR)                           | 6199129.00 |            |
| Student Welfare A/c                              | 2400.00    |            |
| PMKV Yojana                                      | 9090.00    |            |
| Spectrum Enterprises                             | 133339.00  |            |
| Earn & Learn Grant Rec. From NMU Jalgaon         | 49860.00   |            |
| Petty Cash A/c                                   | 40000.00   |            |
| TDS On Intrest ON FDR (A.Y.-2017-18)             | 106437.00  |            |
| TDS Receivable                                   | 42396.00   |            |
| Exam. Advance Bill Receivable From NMU           | 12432.00   |            |
| Scholarship A/c                                  | 41587.50   |            |
| V.L.Patil (Cash Balance-Receivable Op. Bal.)     | 1365248.75 |            |
|  |            | 8211025.25 |

| <b>Internal Section A/c (Debit) List-21</b>  |             |             |
|--|-------------|-------------|
| Shrama Sadhana Trust Jalgaon                 | 400000.00   |             |
| SST Mumbai                                   | 13133.00    |             |
| New Polytechnic A/c                          | 10915.00    |             |
| N.M.U. Exam. A/c                             | 323106.00   |             |
|  |             | 747154.00   |
|  |             |             |
|  |             |             |
| <b>Internal Section A/c (Credit) List-23</b> |             |             |
| Hostel A/c                                   |             |             |
| Shrama Sadhana Trust Mumbai (Jalgaon Branch) | 14842124.50 |             |
| Student Activity Section                     | 5251409.04  |             |
|  | 11132486.00 |             |
|  |             | 31226019.54 |





| <b>Bank Balance List-22</b>                     |             |                    |
|---|-------------|--------------------|
| Bank Of Mah. Bandra                             | 213959.22   |                    |
| Bank Of Mah. Jalgaon                            | 367291.66   |                    |
| Chapter Fee (Student) (BOM)                     | 63889.00    |                    |
| Bank Of Maharashtra Bambhori(See Recon.)        | 10784921.44 |                    |
| Maharashtra Bank MBA A/c                        | 6797.00     |                    |
| Maharashtra Bank Sports A/c                     | 6958.00     |                    |
| State Bank Of India, Jalgaon                    | 635105.92   |                    |
| Trustee College of Engg. & Tech. Bambhori Grat. | 2347491.00  |                    |
| Maharashtra Bank Grant A/c (60095290394)        | 5910.00     |                    |
| Maharashtra Bank AICTE Grant A/c                | 222201.00   |                    |
| Maharashtra Bank IEDC Grant A/c                 | 336194.00   |                    |
| Maharashtra Bank SSBT COET                      | 7540.00     |                    |
|   |             | <b>14998258.24</b> |

**Details of Prior Period and Prepaid items : List 24 :**

|  |           |            |
|--|-----------|------------|
|  |           |            |
| <b>a. Prior Period Items :</b>             |           |            |
| Advertisement bill to Malhar Communication |           | 120560.00  |
| <b>b. Prepaid Items :</b>                  |           |            |
| Affiliation Fees                           | 510000.00 |            |
| Vehicle Insurance                          | 153827.00 |            |
| Liabrary Subscriptions                     | 363934.00 | 1027761.00 |
| <b>c. Payment without deduction of Tax</b> |           |            |
| Printing & Stationery expenses             |           | 126050.00  |
|  |           |            |



**SHRAMA SADHANA BOMBAY TRUSTS, MUMBAI**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI, JALGAON**  
**LIST NO. 16 : MOVABLE PROPERTIES AS ON 31/03/2017**

| Sl. No. | SECTION                                | BALANCE AS ON 31/03/2016 | ADDITIONS DURING YEAR |            | TOTAL       | RATE | CURRENT YEAR DEPRECIATION | W.D.V. AS AT 31/03/2017 | TOTAL DEPRE. AS ON 31/03/2016 | GROSS VALUE AS ON 31/03/2017 |
|---------|--|--------------------------|-----------------------|------------|-------------|------|---------------------------|-------------------------|-------------------------------|------------------------------|
|         |  |                          | (D)                   | (E)        |             |      |                           |                         |                               |                              |
| (A)     | (B)                                    | (C)                      | BEFORE SEPT. 2016     | SEPT. 2016 | (F)         | (G)  | (H)                       | (I)                     | (J)                           | (K)                          |
| 1)      | A) MACHINERY & EQUIPMENTS:             |                          |                       |            |             |      |                           |                         |                               |                              |
| 2)      | LIBRARY SECTION                        | 3432098.22               | 242120.00             | 420507.00  | 4094725.22  | 25%  | 971117.93                 | 3123607.29              | 17291676.41                   | 21388401.63                  |
| 3)      | SPORTS & GYM KHANA                     | 703333.97                |                       | 41773.00   | 745106.97   | 15%  | 108633.07                 | 636473.90               | 1158761.4                     | 1903868.37                   |
| 4)      | ELECTRIC TRANSFORMER                   | 8387.67                  |                       |            | 8387.67     | 15%  | 1259.65                   | 7138.02                 | 1196120.21                    | 1204517.88                   |
| 5)      | CIVIL ENGG. EQUIPMENT                  | 2319677.27               | 27319.00              | 40000.00   | 2386996.27  | 15%  | 355049.44                 | 2031946.83              | 4938779.43                    | 7325775.70                   |
| 6)      | MECHANICAL ENGG. EQUIP. (PROD.)        | 1573165.01               | 15709.00              | 40046.00   | 1628920.01  | 15%  | 241334.55                 | 1387585.46              | 4918277.01                    | 6547197.02                   |
| 7)      | CAD/CAM COMPUTER                       | 0.28                     | 0.00                  | 0.00       | 0.28        | 60%  | 0.17                      | 0.11                    | 1601598.69                    | 1601598.97                   |
| 8)      | ELECTRONICS ENGG. EQUIPMENTS           | 3019875.83               | 0.00                  | 0.00       | 3019875.83  | 15%  | 452881.37                 | 2566894.46              | 10382592.76                   | 13402488.59                  |
| 9)      | COMPUTER ENGG. EQUIPMENT               | 541087.42                | 0.00                  | 211000.00  | 752087.42   | 60%  | 387852.45                 | 364134.97               | 28924762.69                   | 29676850.11                  |
| 10)     | I.T. LAB EQUIPMENT                     | 845081.70                | 0.00                  | 80000.00   | 925081.70   | 60%  | 531049.02                 | 394032.68               | 5430104.03                    | 6355186.73                   |
| 11)     | WORK-SHOP SECTION TOOLS & MACHINERY    | 29034.69                 |                       |            | 29034.69    | 15%  | 4355.20                   | 24679.49                | 5887763.22                    | 5916797.91                   |
| 12)     | FURNITURE & EQUIPMENTS                 | 28905304.52              | 0.00                  | 50000.00   | 28955304.52 | 15%  | 4339545.68                | 24615758.84             | 22567168.07                   | 51522472.59                  |
| 13)     | VEHICLE                                | 5829633.39               | 0.00                  | 0.00       | 5829633.39  | 15%  | 874445.01                 | 4955183.38              | 4812549.99                    | 10642183.38                  |
| 14)     | STREET LIGHTING & ELE. EQUIPMENT       | 216307.23                | 0.00                  | 0.00       | 216307.23   | 15%  | 32446.08                  | 183861.15               | 167772.95                     | 384080.18                    |
| 15)     | CHEMICAL ENGG. EQUIPMENT               | 1419236.10               | 0.00                  | 0.00       | 1419236.10  | 15%  | 212885.42                 | 1206350.69              | 3440405.49                    | 4859641.59                   |
| 16)     | PROJECT A/C FOR MECHANICAL             | 6385.17                  | 0.00                  | 0.00       | 6385.17     | 15%  | 957.78                    | 5427.39                 | 179169.39                     | 185554.56                    |
| 17)     | TELEPHONE SYSTEM INSTALLMENT           | 150113.27                | 0.00                  | 20000.00   | 152113.27   | 15%  | 22666.99                  | 129446.28               | 152365.26                     | 304478.53                    |
| 18)     | COMPUTER EQUIPMENT (MECHANICAL)        | 0.01                     | 0.00                  | 0.00       | 0.01        | 60%  | 0.01                      | 0.00                    | 142687.94                     | 142687.95                    |
| 19)     | APPLIED SCIENCE                        | 638573.39                | 0.00                  | 0.00       | 638573.39   | 15%  | 95786.01                  | 542787.38               | 571506.17                     | 1210079.56                   |
| 20)     | ELECTRICAL EQUIPMENT                   | 1202197.44               | 246442.00             | 0.00       | 1448639.44  | 15%  | 217295.92                 | 1231343.52              | 1970544.48                    | 3419183.92                   |
| 21)     | ELECTRICAL LAB EQUIPMENT               | 2170286.80               | 0.00                  | 18950.00   | 2189236.80  | 15%  | 326964.27                 | 1862272.53              | 2071170.41                    | 4260407.21                   |
| 22)     | LAB DEVELOPMENT EXP.                   | 342110.19                | 0.00                  | 0.00       | 342110.19   | 15%  | 51316.53                  | 290793.66               | 1212650.77                    | 1554750.95                   |
| 23)     | OFFICE EQUIPMENT                       | 1361212.67               | 0.00                  | 0.00       | 1361212.67  | 15%  | 204181.90                 | 1157030.77              | 655073.04                     | 2016285.71                   |
| 24)     | COMPUTER CENTER EQUIPMENT              | 582.92                   | 0.00                  | 0.00       | 582.92      | 60%  | 349.75                    | 233.17                  | 1410114.12                    | 1410697.04                   |
| 25)     | ELECTRONIC OFFICE EQUIPMENT            | 33175.78                 | 0.00                  | 0.00       | 33175.78    | 15%  | 4976.37                   | 28199.41                | 248031.53                     | 281207.31                    |
| 26)     | I.T. LAB DEVELOPMENT                   | 285787.75                | 0.00                  | 0.00       | 285787.75   | 15%  | 42868.16                  | 242919.59               | 458366.62                     | 744154.37                    |
| 27)     | HAND LORRY PURCHASE                    | 1280.36                  | 0.00                  | 0.00       | 1280.36     | 15%  | 192.05                    | 1088.31                 | 3352.3                        | 4632.66                      |
| 28)     | OFFICE COMPUTER SOFTWARE               | 115754.51                | 0.00                  | 0.00       | 115754.51   | 60%  | 69452.71                  | 46301.80                | 417575.51                     | 533330.02                    |
| 29)     | APPLIED SCIENCE COMPUTER LAB EQUIPMENT | 58807.45                 | 0.00                  | 0.00       | 58807.45    | 60%  | 35284.47                  | 23522.98                | 666942.6                      | 725750.05                    |





|             |  |             |           |           |             |             |             |           |              |            |            |
|-------------|--|-------------|-----------|-----------|-------------|-------------|-------------|-----------|--------------|------------|------------|
| 29)         | CHEMICAL LAB COMPUTER EQUIPMENT        | 52568.22    | 0.00      | 0.00      | 0.00        | 52568.22    | 60%         | 31540.93  | 21027.29     | 1035395.4  | 1087963.62 |
| 30)         | CIVIL LAB COMPUTER EQUIPMENT           | 143915.76   | 0.00      | 0.00      | 0.00        | 143915.76   | 60%         | 86349.46  | 57566.30     | 567625.13  | 711540.89  |
| 31)         | ELECTRICAL LAB COMPUTER EQUIPMENT      | 24946.72    | 0.00      | 0.00      | 0.00        | 24946.72    | 60%         | 14968.03  | 9978.69      | 1121338.09 | 1146284.81 |
| 32)         | E. & T.C. LAB COMPUTER EQUIPMENT       | 174878.98   | 0.00      | 0.00      | 0.00        | 174878.98   | 60%         | 104927.39 | 69951.59     | 1642252.28 | 1817131.26 |
| 33)         | MECHANICAL LAB COMPUTER EQUIPMENT      | 233058.10   | 0.00      | 0.00      | 0.00        | 233058.10   | 60%         | 139834.85 | 93223.24     | 1491215.02 | 1724273.12 |
| 34)         | OFFICE COMPUTER EQUIPMENT              | 47862.24    | 12300.00  | 0.00      | 0.00        | 60162.24    | 60%         | 36097.34  | 24084.90     | 1300546.38 | 1360708.62 |
| 35)         | TRAINING & PLACEMENT COMPUTER EQUIP.   | 9956.91     | 0.00      | 0.00      | 0.00        | 9956.91     | 60%         | 5974.15   | 3982.76      | 89742.18   | 99699.09   |
| 36)         | GARDEN WORK EQUIPMENT                  | 267620.57   | 0.00      | 0.00      | 0.00        | 267620.57   | 15%         | 40143.09  | 227477.48    | 79277.01   | 346897.58  |
| 37)         | LAP TOP EQUIPMENT                      | 21092.61    | 38500.00  | 0.00      | 0.00        | 59592.61    | 60%         | 35755.57  | 23837.04     | 379701.36  | 439293.97  |
| 38)         | ME - CIVIL EQUIPMENT                   | 126153.24   | 0.00      | 0.00      | 0.00        | 126153.24   | 15%         | 18922.99  | 107230.25    | 186282.79  | 312436.03  |
| 39)         | ME - MECHANICAL EQUIPMENT              | 81472.34    | 0.00      | 0.00      | 0.00        | 81472.34    | 15%         | 12220.85  | 69251.49     | 315441.99  | 396914.33  |
| 40)         | MOBILE PURCHASE                        | 8336.73     | 0.00      | 0.00      | 0.00        | 8336.73     | 15%         | 1250.51   | 7086.22      | 27987.47   | 36324.20   |
| 41)         | T.V.PURCHASE                           | 38780.02    | 0.00      | 0.00      | 0.00        | 38780.02    | 15%         | 5817.00   | 32863.02     | 36979.94   | 75759.96   |
| 42)         | SOUND SYSTEM                           | 81552.31    | 0.00      | 0.00      | 0.00        | 81552.31    | 15%         | 12232.85  | 69319.46     | 57552.41   | 139104.72  |
| 43)         | WATER SUPPLY EQUIPMENT                 | 319676.19   | 0.00      | 0.00      | 0.00        | 319676.19   | 15%         | 47851.43  | 271724.76    | 267989.05  | 587665.24  |
| 44)         | BIO-TECHNOLOGY EQUIPMENT               | 1242962.04  | 0.00      | 0.00      | 0.00        | 1242962.04  | 15%         | 186444.31 | 1056517.73   | 1818424.1  | 3061386.14 |
| 45)         | PROJECTOR PURCHASING                   | 571755.99   | 212987.00 | 0.00      | 0.00        | 784742.99   | 15%         | 117711.45 | 667031.54    | 488316.34  | 1273059.33 |
| 46)         | LIBRARY COMPUTER EQUIP.                | 9616.08     | 0.00      | 0.00      | 0.00        | 9616.08     | 60%         | 5769.65   | 3846.43      | 159206.61  | 168822.69  |
| 47)         | BOR-WELL & SUBMERCIBLE PUMP            | 172539.72   | 0.00      | 0.00      | 0.00        | 172539.72   | 15%         | 25880.96  | 146658.76    | 58379.84   | 230919.56  |
| 48)         | CLOSE CURCIT CAMERA                    | 8627.54     | 0.00      | 0.00      | 0.00        | 8627.54     | 15%         | 1294.13   | 7333.41      | 23810.29   | 32437.83   |
| 49)         | CORDESS SPEAKER SYSTEM                 | 9149.54     | 0.00      | 0.00      | 0.00        | 9149.54     | 15%         | 1372.43   | 7777.11      | 26260.9    | 34400.44   |
| 50)         | DIGITAL CAMERA PURCHAS                 | 353385.45   | 0.00      | 0.00      | 0.00        | 353385.45   | 15%         | 53007.82  | 300377.63    | 88147.16   | 441532.61  |
| 51)         | ZEROX MACHINE                          | 17744.58    | 10000.00  | 0.00      | 0.00        | 27744.58    | 15%         | 4161.69   | 23582.89     | 48971.42   | 76716.00   |
| 52)         | M.B.A.EQUIPMENT (COMPUTER)             | 23104.33    | 0.00      | 0.00      | 0.00        | 23104.33    | 60%         | 13862.60  | 9241.73      | 1550834.43 | 1573938.76 |
| 53)         | Virtual Class Room Set -Up (IIT Grant) | 257695.75   | 0.00      | 0.00      | 0.00        | 257695.75   | 15%         | 38554.36  | 219041.39    | 20894.25   | 278590.00  |
| 54)         | RGST Grant Equipment                   | 600962.55   | 0.00      | 0.00      | 0.00        | 600962.55   | 15%         | 90144.38  | 510818.17    | 80673.45   | 681536.00  |
| 55)         | Centralised Networking Instrument      | 439354.14   | 0.00      | 0.00      | 0.00        | 439354.14   | 15%         | 65903.12  | 373451.02    | 140092.74  | 579446.88  |
| 56)         | BIO-TECHNOLOGY COMPUTER                | 50202.74    | 0.00      | 0.00      | 0.00        | 50202.74    | 60%         | 30121.64  | 20081.10     | 153249.98  | 203452.72  |
| TOTAL:- (A) |  | 60597472.40 | 805377.00 | 904276.00 | 62307125.40 | 10813662.92 | 51493462.36 | 136133461 | 198440585.90 |            |            |





SHRAMA SADHANA BOMBAY TRUSTS, MUMBAI  
COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI, JALGAON  
LIST NO. 15 : IMMOVABLE PROPERTIES AS ON 31/03/2017

| Sr. No. | SECTION                           | W.D.V. AS AT 31/03/2016 | ADDITIONS DURING YEAR BEFORE SEPT., 2016 | ADDITIONS DURING YEAR AFTER SEPT., 2016 | TOTAL      | RATE | CURRENT YEAR DEPRECIATION | W.D.V. AS AT 31/03/2017 | TOTAL DEPRE. AS ON 31/03/2016 | GROSS VALUE AS ON 31/03/2017 |
|---------|-----------------------------------|-------------------------|--|---|------------|------|---------------------------|-------------------------|-------------------------------|------------------------------|
| (A)     | (B)                               | (C)                     | (D)                                      | (E)                                     | (F)        | (G)  | (H)                       | (I)                     | (J)                           | (K)                          |
| 1)      | A) COLLEGE DEVELOPMENT A/C        |                         |  |   |            |      |                           |                         |                               |                              |
| 2)      | CANTEEN SHOP CONSTRUCTION         | 112457.35               | 0.00                                     | 0.00                                    | 112457.35  | 5%   | 5622.87                   | 106834.48               | 180808.65                     | 293266.00                    |
| 3)      | PUMP HOUSE & WATER TANK           | 53791.95                | 0.00                                     | 0.00                                    | 53791.95   | 5%   | 2689.60                   | 51102.35                | 87246.15                      | 141038.10                    |
| 4)      | COLLEGE ROAD                      | 86462.33                | 0.00                                     | 0.00                                    | 86462.33   | 10%  | 8646.23                   | 77816.10                | 553595.20                     | 640057.53                    |
| 5)      | WATCHMAN ROOM & MAIN GATE         | 52855.72                | 0.00                                     | 0.00                                    | 52855.72   | 5%   | 2642.79                   | 50212.93                | 87213.70                      | 140069.42                    |
| 6)      | CYCLE STAND                       | 69212.62                | 0.00                                     | 0.00                                    | 69212.62   | 5%   | 3460.63                   | 65751.99                | 114202.75                     | 183415.37                    |
| 7)      | BUS STAND SHED                    | 45869.13                | 0.00                                     | 0.00                                    | 45869.13   | 5%   | 2293.46                   | 43575.67                | 69607.89                      | 115477.02                    |
| 8)      | SARVANT QUARTER EXP.              | 21389.99                | 0.00                                     | 0.00                                    | 21389.99   | 5%   | 1069.50                   | 20320.49                | 32460.01                      | 53850.00                     |
| 9)      | STD BOOTH                         | 43105.69                | 0.00                                     | 0.00                                    | 43105.69   | 5%   | 2155.28                   | 40950.41                | 52322.32                      | 95428.01                     |
| 10)     | TOILET BLOCK CONSTRUCTION         | 137236.95               | 0.00                                     | 0.00                                    | 137236.95  | 5%   | 6861.85                   | 130375.10               | 151864.05                     | 289101.00                    |
| 11)     | BORE WELL & WATER SUPPLY SCHEME   | 2406380.42              | 0.00                                     | 0.00                                    | 2406380.42 | 10%  | 240638.04                 | 2165742.38              | 1682050.67                    | 4088431.09                   |
| 12)     | BASKET BALL                       | 101058.47               | 0.00                                     | 0.00                                    | 101058.47  | 10%  | 10105.85                  | 90952.62                | 317442.53                     | 418501.00                    |
| 13)     | GENERATOR SHED CONSTRUCTION       | 56576.78                | 0.00                                     | 0.00                                    | 56576.78   | 5%   | 2828.84                   | 53747.94                | 48125.23                      | 104702.01                    |
| 14)     | NEW-PIPE LINE                     | 136826.40               | 0.00                                     | 0.00                                    | 136826.40  | 10%  | 13682.64                  | 123143.76               | 277188.62                     | 414015.02                    |
| 15)     | SEMINAR HALL DEVELOPMENT          | 449551.10               | 0.00                                     | 0.00                                    | 449551.10  | 10%  | 44955.11                  | 404595.99               | 559892.91                     | 1009444.01                   |
| 16)     | WINDOW REPLACEMENT                | 1907151.77              | 0.00                                     | 155315.00                               | 2062466.77 | 10%  | 198480.93                 | 1863985.84              | 849193.10                     | 2911659.87                   |
| 17)     | FOUNTAIN CONSTRUCTION             | 758988.56               | 0.00                                     | 0.00                                    | 758988.56  | 5%   | 37949.43                  | 721039.13               | 287775.46                     | 1046764.02                   |
| 18)     | SODA SHOP                         | 20979.00                | 0.00                                     | 0.00                                    | 20979.00   | 10%  | 2097.90                   | 18881.10                | 4921.00                       | 25900.00                     |
| 19)     | R.O. SHED & R.O. SYSTEM           | 161731.26               | 0.00                                     | 0.00                                    | 161731.26  | 10%  | 16173.13                  | 145558.13               | 32341.74                      | 194073.00                    |
| 20)     | COLLEGE NAME ( Neon Light System) | 320124.96               | 0.00                                     | 0.00                                    | 320124.96  | 10%  | 32012.50                  | 288112.46               | 76131.04                      | 396256.00                    |
| 21)     | Parking Shed                      | 0.00                    | 0.00                                     | 979185.00                               | 979185.00  |      | 48959.25                  | 930225.75               | 0.00                          | 979185.00                    |
|         | TOTAL OF SCHEDULE (A)             | 6941750.45              | 0.00                                     | 1134500.00                              | 8076250.45 |      | 683325.81                 | 7392924.64              | 5464383.02                    | 13540633.53                  |



RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2017

**NOTES ON ACCOUNTS AND DISCLOSURE OF ACCOUNTING POLICIES**

1) The accounts have been prepared under the historical cost convention and as per normally accepted accounting principle. However as per usual practice the AICTE and affiliation fees accounted on Cash basis.

2) Method of Accounting : The College has followed Mercantile system of accounting.

3) Depreciation:

The depreciation has been charged at the rate prescribed under Income-tax Act, 1961 on the WDV on 1.4.2016, after considering addition / deletion to the asset during the year.

4) Fixed Assets : The Immovable assets are shown at the Original Cost and rest of the movable assets are shown at W.D.V. on 31-03-2017.

5) Contingencies and Event occurring after the balance sheet date: No such event.

6) Prior period items: Generally no prior period expenses debited, except usual system followed by the College.

7) Investments: Investments in fixed deposits are shown at cost plus accrued interest upto 31-03-2017.

8) There is no extra ordinary items debited to Income and Expenditure A/c, which has material effect on the results during the year.

9) As per the regular practice the Board of Trustees, the College Rent of Rs. 2,41,83,953/- has been given to Shrama Sadhana Bombay Trust, Jalgaon Branch.

FOR : COLLEGE OF ENGG. & TECHNOLOGY,

  
(PRINCIPAL)

(TRUSTEE)



RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2017

SCH NO.25 : AUDIT NOTES AND REMARKS FORMING PART OF AUDIT REPORT

- 1) The accounts have been prepared under the historical cost convention and as per normally accepted accounting principles. The accounts are maintained on computer system and the hard prints of the Cash book and Ledger have been produced before us.
- 2) The Affiliation fees, AICTE fees paid, Magazine Contribution, Telephone bill, Electric bill, Vehicle Insurance, etc. are accounted on cash basis. The details of major Prior period and prepaid expenses are attached herewith (List No.24). It is informed by the Principal that this is the usual practice followed by the College and it has not have any material impact.
- 3) During the year under consideration the College has shown Development fund collected from students as Income and credited to Income and Expenditure A/c.
- 4) There is a system in the College to give advances to staff for the expenses to be incurred. It is necessary to recover these old advances and also the amount receivable from the Ex-Cashier V. L. Patil, Shri. Jadhav, against whom the cases were filed, as early as possible.
- 5) Depreciation on the assets has been charged on reducing balance method. The depreciation on the Movable assets is debited to Income and Expenditure A/c and credited to each Asset A/c and the value of movable assets are shown at W.D.V. on 31.3.2017. However, the depreciation on the Immovable Assets has been credited to Depreciation Fund A/c and the said assets are shown at cost price.
- 6) During the year under consideration an amount of Rs.2,41,83,953/- have been debited to Building Rent credited to Shrama Sadhana Bombay Trust, Jalgaon branch.
- 7) It is necessary to pay the provisions for expenses payable as early as possible. The balances of Expenses payables, Banks, Fixed Deposits and Interest thereon, balances of other current liabilities and current assets are subject to confirmation in the absence of necessary evidence.
- 8) It is informed by Principal that there are some old liabilities and old receivables, which are presently not the liabilities and assets. Therefore, these amounts written off during the year and net credit effect of Rs.165189/- credited to Income and Expenditure Account.
- 9) The College has make payment some payments without deduction of tax. The details given in Schedule No.24 attached.

R. N. Khairnar  
M. Com., D.B.M., F.C.A.

R. N. Khairnar & Co.,  
CHARTERED ACCOUNTANTS,  
"OM", 267, BALIRAM PETH,  
OPP. NAIK CYCLE MART,  
JALGAON 425 001  
Tel - (0257) 2220890 Fax 0257- 2232374

RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2017

- 2 -

10) During the year under consideration Coloring, Lab Expenses, Art work and Repair expenses, as given in List No. 3 & 4 have been undertaken by the College of Engineering & Technology Section. The college authorities have taken a stand and explained to us that having regard to the area of the College and investments in the assets, the expenditure incurred is of revenue nature, though the quantum of expenditure is very high; therefore, the same has been debited to Income and Expenditure Account.

11) We have conducted audit in accordance with the auditing standards generally accepted in India. Those Standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material mis-statement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

PLACE : JALGAON.

DATED : 3rd Oct., 2017

FOR: R. N. KHAIRNAR & CO.,  
CHARTERED ACCOUNTANTS



(R.N.KHAIRNAR)  
PROPRIETOR  
M. NO.48440



# *R. N. Khairnar & CO.,*

## **CHARTERED ACCOUNTANTS**

267, "OM" BUILDING, BALIRAM PETH, JALGAON 425 001 [M S]

PHONE NO (0257) 2220890, 2232374

Email :ravindraca9@gmail.com

## **AUDIT REPORT**

|                      |   |
|----------------------|---|
| NAME OF THE ASSESSEE | SHRMA SADHANA BOMBAY TRUST<br>COLLEGE OF ENGINEERING & TECHNOLOGY |
| ADDRESS              | AT & POST BAMBHORI TAL : DHARANGAON<br>DIST : JALGAON : 425001    |
| FIANCIAL YEAR.       | 31 <sup>ST</sup> MARCH, 2018                                      |
| ASSESSMENT YEAR      | 2018-19   |



R. N. Khairnar  
M. Com., D.B.M., F.C.A.

R. N. Khairnar & Co.,  
CHARTERED ACCOUNTANTS,  
"OM", 267, BALIRAM PETH,  
OPP. NAIK CYCLE MART,  
JALGAON 425 001

Tel - (0257) 2220890 Fax 0257- 2232374

RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

AUDITOR'S REPORT

We have examined the attached Balance Sheet of RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON as at 31st March, 2018 along with the Income and Expenditure Account for the year ended on that date, which are in agreement with the books of accounts maintained.

- 1) The proper books of Account are kept by the Institutions including that of each segment.
- 2) The Institution has followed Mercantile (accrual) system of accounting. The same system of accounting was followed by the Institute in immediate preceding previous year.
- 3) We have obtained all the information and explanations which to the best of our knowledge and belief, were necessary for the purposes of the audit and for determination of fees by the Authority.
- 4) The Accounts of the Institute are submitted by following Accounting Standard 17 or equivalent Ind AS and certified by us as true and fair representation of segmental reporting. The segment being every course for which the approval of the fees is sought before the Authority.
- 5) The Institute has maintained separate set of books of accounts for each segment.
- 6) In our opinion, and to the best of our information and according to explanations given to us, subject to remarks attached herewith, the said accounts, give a true and fair view :
  - (i) in the case of the balance sheet, of the state of the affairs of the Institute and segment as at 31st March, 2018 and
  - (ii) in the case of the income and expenditure account, of the Surplus of the institutes and segment for the year ended on that date.

PLACE : JALGAON

DATED : 22nd Oct., 2018

For: R. N. KHAIRNAR & CO.  
(Chartered Accountants)



(R.N. KHAIRNAR)  
PROPRIETOR  
M.NO.048440

25/10/18

SHRAMA SADHANA BOMBAY TRUST'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

INCOME AND EXPENDITURE for the year ending 31<sup>st</sup> March, 2018

| 31/03/2017   | EXPENDITURE                               | 31/03/2018   | 31/03/2017   | INCOME                              | 31/03/2018   |
|--------------|---|--------------|--------------|-------------------------------------|--------------|
| 112569779.00 | To Salary Exp.                            | 109993404.00 | 174238697.00 | By Tution Fee                       | 169135159.00 |
| 735576.00    | To Library Exp.(List-02)                  | 686200.00    | 10187337.77  | By Other Income (List-10)           | 9521660.00   |
| 33369693.72  | To Other College Estab. Exp. (List-03)    | 28542303.88  | 15445672.00  | By Student Fee (List-11)            | 20703295.00  |
| 5417925.00   | To Repair & Maintainance (List-04)        | 5268725.00   | 6329077.00   | STUDENT FEE-MBA STUDENT (List-11-A) | 6004747.00   |
| 8883680.67   | To Administrative Exp. (List-01)          | 11003696.60  | 5526572.00   | STUDENT FEE-ME STUDENT (List-11-B)  | 2091027.00   |
| 1524113.00   | To Sport Exp. (List-06)                   | 929310.00    |              |                                     |              |
| 2194309.00   | To Work-Shop & Laboratory Exp. (List-07)  | 1099646.00   |              |                                     |              |
| 4052859.00   | To Student Act.Culture & Welfare (List-8) | 3496682.00   |              |                                     |              |
| 4710756.00   | To Academic Exp. (List-5)                 | 3108223.00   |              |                                     |              |
| 11265713.15  | To Depreciation Exp.(List-9)              | 9679148.03   |              |                                     |              |
| 3232146.84   | ME EXP. (Shedule-9-A)                     | 2812580.26   |              |                                     |              |
| 4109721.00   | MBA. (Shedule-9-B)                        | 4138075.04   |              |                                     |              |
| 192066272.38 | Total Expenditure                         | 180757993.81 |              |                                     |              |
| 19661283.89  | To Surplus tr. To Balance -Sheet          | 26697894.19  |              |                                     |              |
| 211727555.77 | Total :-                                  | 207455888.00 | 211727555.77 | Total :-                            | 207455888.00 |

FOR: COLLEGE OF ENGINEERING AND TECHNOLOGY  
BAMBHORI, JALGAON

  
PRINCIPAL

TRUSTEE

PLACE : JLAGAON  
DATED: 20 th October, 2018

AS PER OUR REPORT EVEN DATE ATTACHED  
FOR R.N.KHAIRNAR & Co.  
CHARTERED ACCOUNTANTS

SSBT's College of Engg. & Technology  
Bambhori, Jalgaon-425061(M.S.)

(R.N.KHAIRNAR)  
PROPRIETOR  
M.NO.48440



SHRAMA SADHANA BOMBAY TRUST's  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

BALANCE-SHEET As At 31<sup>st</sup> March, 2018

| 31/03/2017   | LIABILITIES                        | 31/03/2018   | 31/03/2017   | ASSETS   | 31/03/2018   |
|--------------|------------------------------------|--------------|--------------|--|--------------|
| 105414492.63 | Ear Marked Fund (List-12)          | 106107701.42 | 13540633.53  | Immovable Property (List-15)                   | 13782870.53  |
| 7553016.00   | Sundry Deposit (List-13)           | 7919016.00   | 51493462.36  | Movable Property (List-16)                     | 50387314.80  |
| 9721135.00   | Current Liabilities (List-14)      | 9125380.00   | 68562784.00  | Investments (List-17)                          | 58562784.00  |
| 54150323.00  | Advance Fee of April-17 to June-17 | 49720357.00  | 1755907.00   | Deposits (List-18)                             | 1755907.00   |
| 13476169.00  | Payable Exp.                       | 16107571.00  |              | <b>CURRENT ASSET &amp; LOAN &amp; ADVANCES</b> |              |
| 31226019.54  | Internal A/c (List-23)             | 48912362.54  | 129766       | Party Advance (List-19)                        | 86019.00     |
|              | Income and Expenditure A/c:        |              | 537809.82    | Staff Members Advance                          | 690944.82    |
|              | Op. Bal. 70064430.22               |              | 8211025.25   | Receivables (List-20)                          | 9939602.25   |
| 70064430.22  | Add: Cur. Yr. Surplus 26697894.19  | 96762324.41  | 131826094.00 | Student Fee Receivable                         | 163311312.00 |
|              |                                    |              | 747154.00    | Internal Section A/c (List-21)                 | 8567241.48   |
|              |                                    |              | 2691.00      | Cash Balance                                   | 5724.00      |
|              |                                    |              | 14998258.24  | Bank Balance (List-22)                         | 27564975.52  |
|              | Notes to Accounts - Sch-           |              |              | Income and Expenditure A/c:                    |              |
| 291605585.39 | <b>Total :-</b>                    | 334654692.37 | 291605585.39 | <b>Total :-</b>                                | 334654692.37 |

FOR: COLLEGE OF ENGINEERING AND TECHNOLOGY  
BAMBHORI, JALGAON

PRINCIPAL

**PRINCIPAL**

SSST's College of Engg. & Technology  
Bambhori, Jalgaon-425061 (M.S.)

TRUSTEE

PLACE : JALGAON  
DATED: 20<sup>th</sup> October, 2018

AS PER OUR REPORT EVEN DATE ATTACHED  
FOR R.N.KHAIRNAR & Co.  
CHARTERED ACCOUNTANTS

(R.N.KHAIRNAR)  
PROPRIETOR  
M.NO.48440





**COLLEGE OF ENGINEERING & TECH. BAMBHORI JALGAON**

**GROUP SUMMARY OF INDIRECT EXP As On-31/03/2018**

| <b>PARTICULARS</b>                          | <b>Amount</b>      |
|---|--------------------|
| <b>ADMINISTRATIVE EXP:- (LIST-1)</b>        |                    |
| Audit Fee                                   | 118000.00          |
| D.D./Cheque Clearing & Bank Service Charges | 42433.60           |
| Local Conveyance Charges For Office work    | 82822.00           |
| Labour Payment                              | 330043.00          |
| Electric Bill (MSEB)                        | 5990276.00         |
| Canteen & Mess Exp for Staff                | 282871.00          |
| Examination Expenses                        | 110888.00          |
| Generator Exp.                              | 340650.00          |
| Water Bill (Girna)                          | 54483.00           |
| Water Supply Exp.                           | 538500.00          |
| Meeting Exp.                                | 61643.00           |
| Misc. Expenses                              | 74385.00           |
| Office Expenses                             | 241282.00          |
| Postage & Telegram                          | 20159.00           |
| Printing & Stationary                       | 661169.00          |
| Professional Charges                        | 352339.00          |
| Telephone & Mobile Bill                     | 312762.00          |
| Transport Charges                           | 21218.00           |
| T.A.D.A.Exp.for Office Work                 | 507309.00          |
| Vehical Repair. & maint.                    | 204162.00          |
| Vehical Tax & Insurance                     | 206215.00          |
| Vehical Fuel Exp.                           | 348989.00          |
| Zerox Exp.                                  | 101098.00          |
| <b>TOTAL:-</b>                              | <b>11003696.60</b> |

| <b>LIBRARY Exp. (LIST-2)</b>                                  | <b>Amount</b>    |
|---|------------------|
| Library Exp.  | 115413.00        |
| Magazine, Journals , E-Journals, Periodicals & Other Lib.Exp. | 522636.00        |
| News Paper Exp.   | 48151.00         |
| <b>TOTAL:-</b>  | <b>686200.00</b> |



| OTHER COLLEGE ESTABLISHMENT EXP.(LIST-3)                        | Amount             |
|---|--------------------|
| Accreditation Exp.  |                    |
| Financial Aid to Poor Students Under College Scholarship Scheme | 305750.00          |
| Hospitality Exp.  | 79917.00           |
| Admission Process Fee To ARA                                    | 59418.88           |
| Building Rent   | 23920607.00        |
| Antivirus Purchasing  | 44500.00           |
| Tree Plant & Lawn Exp.  | 621401.00          |
| Flex & Hoarding Exp.  | 365330.00          |
| Class Room Exp.   | 300000.00          |
| Colouring Exp.  | 670604.00          |
| Guest House Exp.  | 162641.00          |
| I.T.  | 35876.00           |
| Name Plate & Board Exp.   | 28300.00           |
| Advertisement Exp.  | 791074.00          |
| Fire-Control Exp  | 35555.00           |
| Parking Exp   | 488173.00          |
| Campus Cleaning and College Development Exp.                    | 633157.00          |
| <b>TOTAL:-</b>  | <b>28542303.88</b> |

| REPAIR & MAINT. (LIST-4)             | Amount            |
|--------------------------------------|-------------------|
| Building Rep. & Maint.               | 1375081.00        |
| Retaining Wall Maint.                | 114000.00         |
| Old Weak Security Wall Rep.& Maint.  | 491221.00         |
| Electrical Instrument Repairing Exp. | 590866.00         |
| Furniture Repair & Maint.            | 595751.00         |
| Toilet Block Repair & Maint.         | 300354.00         |
| Other Repair & Maint.                | 1164176.00        |
| Sanitary Exp.                        | 415005.00         |
| Street Light Repairing Exp.          | 68611.00          |
| Windos Rpairing Exp.                 | 153660.00         |
| <b>TOTAL:-</b>                       | <b>5268725.00</b> |



| SALARY EXP.                       | Amount              |
|-----------------------------------|---------------------|
| PF Administrative Charges         | 462945.00           |
| Basic Pay                         | 56965399.00         |
| D.A.                              | 27075719.00         |
| Family Pension                    | 3350513.00          |
| H.R.A.                            | 4393406.00          |
| Salary Increment & Other Payment. | 462684.00           |
| Link Insurance                    | 210447.00           |
| P.F. (Employee)                   | 1245246.00          |
| Regional Insurance                | 4210.00             |
| Security Service Contract         | 2627771.00          |
| Special Allowance                 | 180060.00           |
| Visiting Lecturer Remuneration    | 17175.00            |
| L.I.C. Gratuity Scheme Premium    | 1600000.00          |
| EL Encashment                     | 460443.00           |
| Annual Grade Pay                  | 9874213.00          |
| Salary Arrears                    | 1063173.00          |
| <b>TOTAL:-</b>                    | <b>109993404.00</b> |

| Academic Exp. (LIST-5)         | Amount            |
|--------------------------------|-------------------|
| Admission & Education Fare     | 556743.00         |
| Admission Exp.                 | 150783.00         |
| AICTE Fee                      | 200000.00         |
| Registration & Affiliation Fee | 240620.00         |
| SST Research Pramotion Scheme  | 286706.00         |
| Waist Water                    | 193750.00         |
| Work-shop & Seminar Fee        | 116716.00         |
| Lab Development Exp.           | 400000.00         |
| Staff Welfare & Incentive      | 9780.00           |
| PMKV Exp.                      | 236550.00         |
| Server repairing Exp.          | 92892.00          |
| Industrial Training            | 13600.00          |
| I.S.O. Exp.                    | 51920.00          |
| T.V. Advertisement             | 511374.00         |
| National Safety Council        | 7886.00           |
| Staff Recruitment Exp.         | 38903.00          |
| <b>TOTAL:-</b>                 | <b>3108223.00</b> |



| Sport Exp. (LIST-6) | Amount           |
|---------------------|------------------|
| Play ground Exp.    | 273915.00        |
| Pro-Rata Fees       | 54460.00         |
| Sport Exp.          | 600935.00        |
| <b>TOTAL:-</b>      | <b>929310.00</b> |

| Workshop & Laboratory Exp.(List-7) | Amount            |
|------------------------------------|-------------------|
| Applied Science Exp.               | 8535.00           |
| Bio Tecnolony Exp.                 | 103036.00         |
| Chemical Lab Exp.                  | 67711.00          |
| Civil Lab Exp.                     | 58382.00          |
| Computer Lab Exp.                  | 167054.00         |
| Electrical lab Exp.                | 18185.00          |
| Electronics Lab Exp.               | 25103.00          |
| I.T.Lab Exp.                       | 23674.00          |
| Mechanical Lab Exp.                | 52551.00          |
| Workshop Exp.                      | 186189.00         |
| Microsoft Campus Agreement         | 355486.00         |
| Centralised Computer Maint.        | 33740.00          |
| <b>TOTAL</b>                       | <b>1099646.00</b> |





| Student Activity ,Culturur & Wellfare Sec.(list-8) | Amount            |
|--|-------------------|
| Internet Exp.                                      | 997017.00         |
| Medical Aid  | 56855.00          |
| Parents Meeting Exp.                               | 72167.00          |
| Alumni Exp.  | 53466.00          |
| Student Activity ,Culturur & incentive Exp.        | 343789.00         |
| Training Placement Exp.                            | 239482.00         |
| Project Exhibition & Student Project Exp.          | 25000.00          |
| Student Counseling                                 | 605669.00         |
| Earn & Learn Scheme                                | 85290.00          |
| Gatharing Exp.                                     | 243942.00         |
| Yuvarang Exp.                                      | 22820.00          |
| Inter-National Conference                          | 88215.00          |
| Web-Site Exp                                       | 94439.00          |
| Feast Exp.   | 329135.00         |
| Yoga Day Exp.                                      | 11300.00          |
| HACKATHON New Delhi                                | 32157.00          |
| Blood Donation Camp                                | 4100.00           |
| Robo-Con Competition                               | 185567.00         |
| PLAST India Exhibition                             | 6272.00           |
| <b>TOTAL:-</b>                                     | <b>3496682.00</b> |

| Depreciation Exp.(list-9)             |                   |
|---------------------------------------|-------------------|
| Depreciation on Immovable Property    | 687208.79         |
| Depreciation on Machinery & Equipment | 8991939.24        |
| <b>TOTAL:-</b>                        | <b>9679148.03</b> |

| ME EXP. (Shedule-9-A)              |                   |
|------------------------------------|-------------------|
| Salary Exp.                        | 2124801.00        |
| ME Project Remuneration            | 177000.00         |
| Affiliation Fee                    | 150000.00         |
| Advertisement Exp.                 | 113011.00         |
| Electric Bill                      | 28778.00          |
| Laboratory Renewal Fee             | 60000.00          |
| ME Closer Fee                      | 112500.00         |
| Admission Regulating Authority Fee | 20018.00          |
| Depreciation Exp.                  | 26472.26          |
| <b>TOTAL:-</b>                     | <b>2812580.26</b> |

| MBA. (Shedule-9-B)                 |                   |
|------------------------------------|-------------------|
| Salary Exp.                        | 3677474.00        |
| Affiliation Fee                    | 40000.00          |
| Electric Bill                      | 64868.00          |
| Advertisement Exp                  | 226021.00         |
| Depreciation Exp.                  | 19327.04          |
| Admission Regulating Authority Fee | 26018.00          |
| Other Exp.                         | 84367.00          |
| <b>TOTAL:-</b>                     | <b>4138075.04</b> |





| OTHER INCOME (LIST-10)                       |                   |
|--|-------------------|
| Bank Interest                                | 5430380.00        |
| Other Misc. Income                           | 373902.00         |
| Bus Conveyance Charges                       | 614949.00         |
| Attendance & Other Fine                      | 290611.00         |
| On-Line Exam Fee                             | 120395.00         |
| Digital Valuation Center                     | 570265.00         |
| Provisional Adm.Fee                          | 556000.00         |
| ARC Exam.Remuneration                        | 148250.00         |
| Laboratory Fee (Research)                    | 113250.00         |
| Salary Recovery                              | 364475.00         |
| Building Usage Charges (PMKVY)               | 207000.00         |
| Question Paper & Stationary Charges From NMU | 101475.00         |
| Testing Consultancy Charges                  | 630708.00         |
| <b>TOTAL:-</b>                               | <b>9521660.00</b> |

| STUDENT FEE (LIST-11)                              |                    |
|--|--------------------|
| Development Fee                                    | 17345202.00        |
| Students -Broadband, Accr., Gymnasium & Other Fees | 943950.00          |
| University Fee                                     | 2414143.00         |
| <b>TOTAL:-</b>                                     | <b>20703295.00</b> |

Tution Fee 169135159.00

| STUDENT FEE-MBA STUDENT (List-11-A) |                   |
|-------------------------------------|-------------------|
| Tution Fee                          | 5294557.00        |
| Development Fee                     | 562140.00         |
| University Fee                      | 148050.00         |
| <b>TOTAL:-</b>                      | <b>6004747.00</b> |

| STUDENT FEE-ME STUDENT (List-11-B) |                   |
|------------------------------------|-------------------|
| Tution Fee                         | 1866321.00        |
| Development Fee                    | 186636.00         |
| University Fee                     | 38070.00          |
| <b>TOTAL:-</b>                     | <b>2091027.00</b> |



| ACCOUNT NAME  | AMOUNT      | AMOUNT              |
|---|-------------|---------------------|
| <b>Earmarked Fund List-12</b>                         |             |                     |
| Building Fund : Op. Bal.                              | 562471.31   |                     |
| Capital Exp. Reserved Fund: Op. Bal.                  | 38960000.00 |                     |
| College Development Fund: Op. Bal.                    | 3600000.00  |                     |
| Corpus Fund: Op. Bal.                                 | 4300000.00  |                     |
| Dep. Fund of Immovable Property 6147708.76            |             |                     |
| Add: Cur. Yr. Dep. 687208.79                          | 6834917.55  |                     |
| Development Fund : Op. Bal. 47319469.00               |             |                     |
| Add : Cur. Year                                       | 47319469.00 |                     |
| Grant from NSTEDB ,DST New Delhi: Op.Bal.             | 530000.00   |                     |
| Grant from AICTE Under MODROBS Scheme                 |             |                     |
| Op. Bal. 2525176.00                                   |             |                     |
| Add : Cur. Year                                       | 2525176.00  |                     |
| Library Book Grant : Op. Bal.                         | 386500.00   |                     |
| I.I.T.Grant   | 134897.01   |                     |
| RGSTC Grant   | 686024.55   |                     |
| Renewable Energy Club Grant: Op.Bal.                  | 11500.00    |                     |
| Minor Research Grant : Cur. Year (362000-86824-18430) | 256746.00   |                     |
|   |             | <b>106107701.42</b> |

|                              |            |                   |
|------------------------------|------------|-------------------|
| <b>Sudry Deposit List-13</b> |            |                   |
| Caution Money Deposit        | 7822900.00 |                   |
| Security Deposit             | 96116.00   |                   |
|                              |            | <b>7919016.00</b> |

|  |            |                   |
|--|------------|-------------------|
| <b>Current Liabilities List-14</b>             |            |                   |
| NMU VCRPG Grant (Advance)                      | 36153.00   |                   |
| Withheld Salary Payment                        | 1331612.00 |                   |
| ARC Engg. & Pharma. Exam Remuneration          | 60650.00   |                   |
| Advance Fee                                    | 110960.00  |                   |
| Misc. Grant                                    | 14000.00   |                   |
| ISF ISTE Grant                                 | 28040.00   |                   |
| Master Software , Nagpur                       | 265125.00  |                   |
| Service Tax Receivable                         | 96008.00   |                   |
| Gratuity Claim                                 | 1506586.00 |                   |
| Practical Exam. Bill Payable to Staff          | 62320.00   |                   |
| Registration Fee for EAC (IEDC)                | 60200.00   |                   |
| Registration fee for Project Exhibition (IEDC) | 59600.00   |                   |
| Vikas Power System                             | 34666.00   |                   |
| SST Skill Dev. Fee                             | 514000.00  |                   |
| Jakson Engineers Limited, Noida                | 525000.00  |                   |
| Excess Crdited Fee                             | 3502700.00 |                   |
| Term Work Bill Payable                         | 658969.00  |                   |
| Mrs. Sumitra S. Sharma                         | 67548.00   |                   |
| New Shree Jay Ambe Tent House                  | 66141.00   |                   |
| Sanjay D. Bhole                                | 70082.00   |                   |
| Atul Zirafe                                    | 55000.00   |                   |
|  |            | <b>9125360.00</b> |



| Investment List-17                                     |             |             |
|--|-------------|-------------|
| FD With Bank Of Maharashtra Bamphori (Short-Term)      | 51000000.00 |             |
| FD With Bank Of Mah. Bandra                            | 1000000.00  |             |
| FD With Bank Of Maharashtra (Joint A/c DTE & NMU Jal.) | 6562784.00  |             |
|  |             | 58562784.00 |

| Deposit List-18                            |            |            |
|--|------------|------------|
| Bhushan Gas Agency                         | 2000.00    |            |
| Book Bank Deposit                          | 500.00     |            |
| Broad Band Internet Service Deposit (BSNL) | 1500.00    |            |
| Gas Sylender Deposit (Payal Gas)           | 23000.00   |            |
| Internet Deposit                           | 24750.00   |            |
| M.S.E.B. Deposit                           | 1618557.00 |            |
| Security Deposit With BSNL A/c             | 21000.00   |            |
| Shrish Gas Agency                          | 6815.00    |            |
| Telephone Deposit                          | 36720.00   |            |
| Gas Sylender Deposit (Jalgaon Gas)         | 9850.00    |            |
| Water Supply Deposit                       | 11215.00   |            |
|  |            | 1755907.00 |

| Party Advance List-19   |          |          |
|-------------------------|----------|----------|
| Essential Equipments    | 47500.00 |          |
| M.K.Shimpi              | 6488.00  |          |
| Blue Star Ltd           | 10000.00 |          |
| Jain Electrical Jalgaon | 22031.00 |          |
|                         |          | 86019.00 |

| Receivable List-20                               |            |            |
|--|------------|------------|
| Bharatsing N.jadhav Misappropriation A/c:Op.Bal. | 209106.00  |            |
| Interest Accrued (FDR)                           | 7457022.00 |            |
| Student Welfare A/c                              | 2400.00    |            |
| PMKV Yojana                                      | 123191.00  |            |
| Spectrum Enterprises                             | 133339.00  |            |
| IEDC Grant NSTEDB                                | 142952.00  |            |
| Petty Cash A/c                                   | 246.00     |            |
| TDS On Intrest ON FDR (A.Y.-2017-18)             | 106437.00  |            |
| TDS In Intrest On FDR (A.Y.-2018-19)             | 42049.00   |            |
| TDS Receivable (A.Y.-2018-19)                    | 2648.00    |            |
| Exam. Advance Bill Receivable From NMU           | 265037.00  |            |
| GST Receivable                                   | 33237.00   |            |
| TDS Receivable (Int.on MSEB Sec.Deposit)         | 15102.00   |            |
| Scholarship A/c                                  | 41587.50   |            |
| V.L.Patil (Cash Balance-Receivable Op. Bal.)     | 1365248.75 |            |
|  |            | 9939602.25 |





| <b>Internal Section A/c List-21</b>          |             |             |
|--|-------------|-------------|
| Shrama Sadhana Trust Jalgaon                 | 400000.00   |             |
| SST Pharmacy                                 | 7823287.48  |             |
| New Polytechnic A/c                          | 10915.00    |             |
| N.M.U. Exam. A/c                             | 333039.00   |             |
|  |             | 8567241.48  |
| <b>Internal Section A/c List-23</b>          |             |             |
| Hostel A/c                                   | 14994902.50 |             |
| Shrama Sadhana Trust Mumbai (Jalgaon Branch) | 21901694.04 |             |
| SST Mumbai                                   | 7185.00     |             |
| Student Activity Section                     | 12008581.00 |             |
|  |             | 48912362.54 |

| <b>Bank Balance List-22</b>                     |             |             |
|---|-------------|-------------|
| Bank Of Mah. Bandra                             | 242905.22   |             |
| Bank Of Mah. Jalgaon                            | 381262.66   |             |
| Chapter Fee (Student) (BOM)                     | 66319.00    |             |
| Bank Of Maharashtra Bambhori(See Recon.)        | 23272643.72 |             |
| Maharashtra Bank MBA A/c                        | 7055.00     |             |
| Maharashtra Bank Sports A/c                     | 7223.00     |             |
| State Bank Of India, Jalgaon                    | 658762.92   |             |
| Trustee College of Engg. & Tech. Bambhori Grat. | 2576782.00  |             |
| Maharashtra Bank Grant A/c (60095290394)        | 6134.00     |             |
| Maharashtra Bank AICTE Grant A/c                | 222201.00   |             |
| Maharashtra Bank IEDC Grant A/c                 | 116319.00   |             |
| Maharashtra Bank SSBT COET                      | 7368.00     |             |
|   |             | 27564975.52 |



SHRAMA SADHANA BOMBAY TRUST'S, MUMBAI  
COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI, JALGAON  
LIST NO. 16 : MOVABLE PROPERTIES AS ON 31/03/2018

| Sr. No. | SECTION                                | BALANCE AS ON 31/03/2017 | ADDITIONS DURING YEAR BEFORE SEPT.-2017 | ADDITIONS DURING YEAR After SEPT.-2017 | TOTAL       | RATE | CURRENT YEAR DEPRECIATION | W.D.V. AS AT 31/03/2018 | TOTAL DEPRE. AS ON 31/03/2017 | GROSS VALUE AS ON 31/03/2018 |
|---------|--|--------------------------|---|--|-------------|------|---------------------------|-------------------------|-------------------------------|------------------------------|
| (A)     | (B)                                    | (C)                      | (D)                                     | (E)                                    | (F)         | (G)  | (H)                       | (I)                     | (J)                           | (K)                          |
| 1)      | A) MACHINERY & EQUIPMENTS              |                          |   |  |             |      |                           |                         |                               |                              |
| 2)      | LIBRARY SECTION                        | 3123607.29               | 1581.00                                 | 406569.00                              | 3531757.29  | 25%  | 832118.20                 | 2699639.09              | 18262794.34                   | 21794551.63                  |
| 3)      | SPORTS & GYM KHANA                     | 636473.90                |   | 0.00                                   | 636473.90   | 15%  | 95471.09                  | 541002.82               | 1267394.47                    | 1903868.37                   |
| 4)      | ELECTRIC TRANSFORMER                   | 7138.02                  |   |  | 7138.02     | 15%  | 1070.70                   | 6067.32                 | 1197379.86                    | 1204517.88                   |
| 5)      | CIVIL ENGG. EQUIPMENT                  | 2031946.83               | 9943.00                                 | 136296.00                              | 2178185.83  | 15%  | 316505.67                 | 1861680.16              | 5293828.87                    | 7472014.70                   |
| 6)      | MECHANICAL ENGG. EQUIP. (PROD.)        | 1387585.46               | 128000.00                               | 0.00                                   | 1515585.46  | 15%  | 227337.82                 | 1288247.64              | 5159611.56                    | 6675197.02                   |
| 7)      | CAD/CAM COMPUTER                       | 0.11                     | 0.00                                    | 0.00                                   | 0.11        | 40%  | 0.04                      | 0.07                    | 1601598.86                    | 1601598.97                   |
| 8)      | ELECTRONICS ENGG. EQUIPMENTS           | 2566894.46               | 0.00                                    | 0.00                                   | 2566894.46  | 15%  | 385034.17                 | 2181860.29              | 10835574.13                   | 13402468.59                  |
| 9)      | COMPUTER ENGG. EQUIPMENT               | 364134.97                | 0.00                                    | 0.00                                   | 364134.97   | 40%  | 145653.99                 | 218480.98               | 29312715.14                   | 29676850.11                  |
| 10)     | I.T. LAB EQUIPMENT                     | 394032.68                | 0.00                                    | 0.00                                   | 394032.68   | 40%  | 157613.07                 | 236419.61               | 5961153.05                    | 6355185.73                   |
| 11)     | WORK-SHOP SECTION TOOLS & MACHINERY    | 24679.49                 |   |  | 24679.49    | 15%  | 3701.92                   | 20977.57                | 5892118.42                    | 5916797.91                   |
| 12)     | FURNITURE & EQUIPMENTS                 | 24615758.84              | 593971.00                               | 1533544.00                             | 26743273.84 | 15%  | 3896475.28                | 22846798.56             | 26906713.75                   | 53649987.59                  |
| 13)     | VEHICLE                                | 4955188.38               | 0.00                                    | 0.00                                   | 4955188.38  | 15%  | 743278.26                 | 4211910.12              | 5686995.00                    | 10642183.38                  |
| 14)     | STREET LIGHTING & ELE. EQUIPMENT       | 183861.15                | 0.00                                    | 0.00                                   | 183861.15   | 15%  | 27579.17                  | 156281.98               | 200219.03                     | 384080.18                    |
| 15)     | CHEMICAL ENGG. EQUIPMENT               | 1206350.69               | 17370.00                                | 0.00                                   | 1223720.69  | 15%  | 183558.10                 | 1040162.59              | 3653290.91                    | 4877011.60                   |
| 16)     | PROJECT A/C FOR MECHANICAL             | 5427.39                  | 0.00                                    | 0.00                                   | 5427.39     | 15%  | 814.11                    | 4613.28                 | 180127.17                     | 185554.56                    |
| 17)     | TELEPHONE SYSTEM INSTALLMENT           | 129446.28                | 0.00                                    | 0.00                                   | 129446.28   | 15%  | 19416.94                  | 110029.34               | 175032.25                     | 304478.53                    |
| 18)     | COMPUTER EQUIPMENT (MECHANICAL)        | 0.00                     | 0.00                                    | 0.00                                   | 0.00        | 40%  | 0.00                      | 0.00                    | 142687.95                     | 142687.95                    |
| 19)     | APPLIED SCIENCE                        | 542787.38                | 0.00                                    | 0.00                                   | 542787.38   | 15%  | 81418.11                  | 461369.27               | 667292.18                     | 1210079.56                   |
| 20)     | ELECTRICAL EQUIPMENT                   | 1231343.52               | 230114.00                               | 269808.00                              | 1731265.52  | 15%  | 239454.23                 | 1491811.29              | 2187840.40                    | 3919105.92                   |
| 21)     | ELECTRICAL LAB EQUIPMENT               | 1862272.53               | 0.00                                    | 87325.00                               | 1949597.53  | 15%  | 285890.25                 | 1663707.28              | 2398134.68                    | 4347732.21                   |
| 22)     | LAB DEVELOPMENT EXP.                   | 290793.66                | 0.00                                    | 0.00                                   | 290793.66   | 15%  | 43619.05                  | 247174.61               | 1263967.30                    | 1554760.96                   |
| 23)     | OFFICE EQUIPMENT                       | 1157030.77               | 0.00                                    | 10600.00                               | 1167630.77  | 15%  | 174349.62                 | 993281.15               | 859254.94                     | 2026885.71                   |
| 24)     | COMPUTER CENTER EQUIPMENT              | 233.17                   | 0.00                                    | 0.00                                   | 233.17      | 40%  | 93.27                     | 139.90                  | 1410463.87                    | 1410697.04                   |
| 25)     | ELECTRONIC OFFICE EQUIPMENT            | 28199.41                 | 0.00                                    | 0.00                                   | 28199.41    | 15%  | 4229.91                   | 23969.50                | 253007.90                     | 281207.31                    |
| 26)     | I.T. LAB DEVELOPMENT                   | 242919.59                | 0.00                                    | 0.00                                   | 242919.59   | 15%  | 36437.94                  | 206481.65               | 501234.78                     | 744154.37                    |
| 27)     | HAND LORRY PURCHASE                    | 1088.31                  | 0.00                                    | 0.00                                   | 1088.31     | 15%  | 163.25                    | 925.06                  | 3544.35                       | 4632.66                      |
| 28)     | OFFICE COMPUTER SOFTWARE               | 46301.80                 | 0.00                                    | 0.00                                   | 46301.80    | 40%  | 18520.72                  | 27781.08                | 487028.22                     | 533330.02                    |
| 29)     | APPLIED SCIENCE COMPUTER LAB EQUIPMENT | 23522.98                 | 0.00                                    | 0.00                                   | 23522.98    | 40%  | 9409.19                   | 14113.79                | 702227.07                     | 725750.05                    |





|             |  |             |            |            |             |     |            |             |              |              |
|-------------|--|-------------|------------|------------|-------------|-----|------------|-------------|--------------|--------------|
| 29)         | CHEMICAL LAB COMPUTER EQUIPMENT        | 21027.29    | 0.00       | 0.00       | 21027.29    | 40% | 8410.92    | 12616.37    | 1066936.33   | 1087963.62   |
| 30)         | CIVIL LAB COMPUTER EQUIPMENT           | 57566.30    | 0.00       | 0.00       | 57566.30    | 40% | 23026.52   | 34539.78    | 653974.59    | 711540.89    |
| 31)         | ELECTRICAL LAB COMPUTER EQUIPMENT      | 9978.69     | 0.00       | 0.00       | 9978.69     | 40% | 3991.48    | 5987.21     | 1136306.12   | 1146284.81   |
| 32)         | E. & T.C. LAB COMPUTER EQUIPMENT       | 69951.59    | 0.00       | 27000.00   | 96951.59    | 40% | 33380.64   | 63570.95    | 1747179.67   | 1844131.26   |
| 33)         | MECHANICAL LAB COMPUTER EQUIPMENT      | 93223.24    | 0.00       | 0.00       | 93223.24    | 40% | 37289.30   | 55933.94    | 1631049.88   | 1724273.12   |
| 34)         | OFFICE COMPUTER EQUIPMENT              | 24064.90    | 0.00       | 0.00       | 24064.90    | 40% | 9625.96    | 14438.94    | 1336643.72   | 1360708.62   |
| 35)         | TRAINING & PLACEMENT COMPUTER EQUIP.   | 3982.76     | 0.00       | 0.00       | 3982.76     | 40% | 1593.10    | 2389.66     | 95716.33     | 99699.09     |
| 36)         | GARDEN WORK EQUIPMENT                  | 227477.48   | 0.00       | 0.00       | 227477.48   | 15% | 34121.62   | 193355.86   | 119420.10    | 346897.58    |
| 37)         | LAP TOP EQUIPMENT                      | 23837.04    | 36500.00   | 0.00       | 91637.04    | 40% | 30394.82   | 61242.22    | 415456.93    | 507093.97    |
| 38)         | ME - CIVIL EQUIPMENT                   | 107230.25   | 0.00       | 0.00       | 107230.25   | 15% | 16084.54   | 91145.71    | 205205.78    | 312436.03    |
| 39)         | ME - MECHANICAL EQUIPMENT              | 69251.49    | 0.00       | 0.00       | 69251.49    | 15% | 10387.72   | 58863.77    | 327662.84    | 396914.33    |
| 40)         | MOBILE PURCHASE                        | 7086.22     | 0.00       | 0.00       | 7086.22     | 15% | 1062.93    | 6023.29     | 29237.98     | 36324.20     |
| 41)         | T.V. PURCHASE                          | 32963.02    | 0.00       | 0.00       | 32963.02    | 15% | 4944.45    | 28018.57    | 42796.94     | 75759.96     |
| 42)         | SOUND SYSTEM                           | 69319.46    | 26966.00   | 0.00       | 96285.46    | 15% | 14442.82   | 81842.64    | 69785.26     | 166070.72    |
| 43)         | WATER SUPPLY EQUIPMENT                 | 271724.76   | 0.00       | 498184.00  | 769908.76   | 15% | 78122.51   | 691786.25   | 315940.48    | 1085849.24   |
| 44)         | BIO-TECHNOLOGY EQUIPMENT               | 1056517.73  | 0.00       | 0.00       | 1056517.73  | 15% | 158477.66  | 898040.07   | 2004868.41   | 3061386.14   |
| 45)         | PROJECTOR PURCHASING                   | 667031.54   | 0.00       | 0.00       | 667031.54   | 15% | 100054.73  | 566976.81   | 606027.79    | 1273059.33   |
| 46)         | LIBRARY COMPUTER EQUIP.                | 3846.43     | 0.00       | 0.00       | 3846.43     | 40% | 1538.57    | 2307.86     | 164976.26    | 168822.69    |
| 47)         | BOR-WELL & SUBMERCIBLE PUMP            | 146658.76   | 0.00       | 6000.00    | 152658.76   | 15% | 22448.81   | 130209.95   | 84260.80     | 236919.56    |
| 48)         | CLOSE CURCIT CAMERA                    | 7333.41     | 0.00       | 0.00       | 7333.41     | 15% | 1100.01    | 6233.40     | 25104.42     | 32437.83     |
| 49)         | CORDLESS SPEAKER SYSTEM                | 7777.11     | 0.00       | 0.00       | 7777.11     | 15% | 1166.57    | 6610.54     | 26623.33     | 34400.44     |
| 50)         | DIGITAL CAMERA PURCHASE                | 300377.63   | 0.00       | 0.00       | 300377.63   | 15% | 45056.64   | 255320.99   | 141154.98    | 441532.61    |
| 51)         | ZEROX MACHINE                          | 23582.89    | 0.00       | 104630.00  | 128212.89   | 15% | 11384.68   | 116828.21   | 53133.11     | 181346.00    |
| 52)         | M.B.A.EQUIPMENT (COMPUTER)             | 9241.73     | 0.00       | 0.00       | 9241.73     | 40% | 3696.69    | 5545.04     | 59548.61     | 68790.34     |
| 53)         | Virtual Class Room Set -Up (IIT Grant) | 219041.39   | 0.00       | 0.00       | 219041.39   | 15% | 32856.21   | 186185.18   | 170817.83    | 389859.22    |
| 54)         | RGST Grant Equipment                   | 510818.17   | 0.00       | 0.00       | 510818.17   | 15% | 76622.73   | 434195.44   | 1564697.03   | 2075515.20   |
| 55)         | Centralised Networking Instrument      | 373451.02   | 0.00       | 0.00       | 373451.02   | 15% | 56017.65   | 317433.37   | 205995.86    | 579446.88    |
| 56)         | BIO-TECHNOLOGY COMPUTER                | 20081.10    | 0.00       | 0.00       | 20081.10    | 40% | 8032.44    | 12048.66    | 183371.62    | 203452.72    |
| 57)         | Grid Solar Power Plant                 | 0.00        | 0.00       | 3775890.00 | 3775890.00  | 15% | 283191.75  | 3492698.25  | 0.00         | 3775890.00   |
| TOTAL:- (A) |  | 51493462.36 | 1044445.00 | 6887146.00 | 59425053.46 |     | 9037738.54 | 50387314.80 | 146947123.92 | 206372176.91 |



SHRAMA SADHANA BOMBAY TRUST'S, MUMBAI  
COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI, JALGAON  
LIST NO. 15 : IMMOVABLE PROPERTIES AS ON 31/03/2018

| Sr. No. | SECTION                           | W.D.V. AS AT 31/03/2017 | ADDITIONS DURING YEAR |                   | TOTAL      | RATE | CURRENT YEAR DEPRECIATION | W.D.V. AS AT 31/03/2018 | TOTAL DEPRE. AS ON 31/03/2017 | GROSS VALUE AS ON 31/03/2018 |
|---------|-----------------------------------|-------------------------|-----------------------|-------------------|------------|------|---------------------------|-------------------------|-------------------------------|------------------------------|
| (A)     | (B)                               | (C)                     | BEFORE SEPT., 2017    | AFTER SEPT., 2017 | (F)        | (G)  | (H)                       | (I)                     | (J)                           | (K)                          |
| 1)      | A) COLLEGE DEVELOPMENT A/C        |                         |                       |                   |            |      |                           |                         |                               |                              |
| 1)      | CANTEEN SHOP CONSTRUCTION         | 106834.48               | 0.00                  | 0.00              | 106834.48  | 5%   | 5341.72                   | 101492.76               | 186431.52                     | 293266.00                    |
| 2)      | PUMP HOUSE & WATER TANK           | 51102.35                | 0.00                  | 0.00              | 51102.35   | 5%   | 2555.12                   | 48547.23                | 89935.75                      | 141038.10                    |
| 3)      | COLLEGE ROAD                      | 77816.10                | 0.00                  | 0.00              | 77816.10   | 10%  | 7781.61                   | 70034.49                | 562241.43                     | 640057.53                    |
| 4)      | WATCHMAN ROOM & MAIN GATE         | 50212.93                | 0.00                  | 0.00              | 50212.93   | 5%   | 2510.65                   | 47702.28                | 89856.49                      | 140069.42                    |
| 5)      | CYCLE STAND                       | 65751.99                | 0.00                  | 0.00              | 65751.99   | 5%   | 3287.60                   | 62464.39                | 117663.38                     | 183415.37                    |
| 6)      | BUS STAND SHEED                   | 43575.67                | 0.00                  | 0.00              | 43575.67   | 5%   | 2178.78                   | 41396.89                | 71901.35                      | 115477.02                    |
| 7)      | SARVANT QUARTER EXP.              | 20320.49                | 0.00                  | 0.00              | 20320.49   | 5%   | 1016.02                   | 19304.47                | 33529.51                      | 53850.00                     |
| 8)      | STD BOOTH                         | 40950.41                | 0.00                  | 0.00              | 40950.41   | 5%   | 2047.52                   | 38902.89                | 54477.60                      | 95428.01                     |
| 9)      | TOILET BLOCK CONSTRUCTION         | 130375.10               | 0.00                  | 0.00              | 130375.10  | 5%   | 6518.76                   | 123856.35               | 158725.90                     | 289101.00                    |
| 10)     | BORE WELL & WATER SUPPLY SCHEME   | 2165742.38              | 0.00                  | 0.00              | 2165742.38 | 10%  | 216574.24                 | 1949168.14              | 1922688.71                    | 4088431.09                   |
| 11)     | BASKET BALL                       | 90952.62                | 0.00                  | 0.00              | 90952.62   | 10%  | 9095.26                   | 81857.36                | 327548.38                     | 418501.00                    |
| 12)     | GENERATOR SHED CONSTRUCTION       | 53747.94                | 0.00                  | 0.00              | 53747.94   | 5%   | 2687.40                   | 51060.54                | 50954.07                      | 104702.01                    |
| 13)     | NEW-PIPE LINE                     | 123143.76               | 0.00                  | 0.00              | 123143.76  | 10%  | 12314.38                  | 110829.38               | 290871.26                     | 414015.02                    |
| 14)     | SEMINAR HALL DEVELOPMENT          | 404595.99               | 0.00                  | 0.00              | 404595.99  | 10%  | 40459.60                  | 364136.39               | 604848.02                     | 1009444.01                   |
| 15)     | WINDOW REPLACEMENT                | 1863985.84              | 0.00                  | 0.00              | 1863985.84 | 10%  | 186398.58                 | 1677587.26              | 1047674.03                    | 2911659.87                   |
| 16)     | FOUNTAIN CONSTRUCTION             | 721039.13               | 0.00                  | 0.00              | 721039.13  | 5%   | 36051.96                  | 684987.17               | 325724.89                     | 1046764.02                   |
| 17)     | SODA SHOP                         | 18881.10                | 0.00                  | 0.00              | 18881.10   | 10%  | 1888.11                   | 16992.99                | 7018.90                       | 25900.00                     |
| 18)     | R.O. SHED & R.O. SYSTEM           | 145558.13               | 0.00                  | 0.00              | 145558.13  | 10%  | 14555.81                  | 131002.32               | 48514.87                      | 194073.00                    |
| 19)     | COLLEGE NAME ( Neon Light System) | 288112.46               | 0.00                  | 0.00              | 288112.46  | 10%  | 28811.25                  | 259301.21               | 108143.54                     | 396256.00                    |
| 20)     | Parking Shed                      | 930225.75               | 0.00                  | 0.00              | 930225.75  | 10%  | 93022.58                  | 837203.18               | 48959.25                      | 979185.00                    |
| 21)     | M.B.A. Seminar Hall               | 0.00                    | 0.00                  | 242237.00         | 242237.00  | 10%  | 12111.85                  | 230125.15               | 0.00                          | 242237.00                    |
|         | TOTAL OF SCHEDULE (A)             | 7392924.62              | 0.00                  | 242237.00         | 7635161.62 |      | 687208.79                 | 6947952.83              | 6147708.85                    | 13782870.53                  |





R. N. Khairnar  
M. Com., D.B.M., F.C.A.

R. N. Khairnar & Co.,  
CHARTERED ACCOUNTANTS,  
"OM", 267, BALIRAM PETH,  
OPP. NAIK CYCLE MART,  
JALGAON 425 001

Tel - (0257) 2220890 Fax 0257- 2232374

RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2018

SCH NO.25 : AUDIT NOTES AND REMARKS FORMING PART OF AUDIT REPORT

- 1) The accounts have been prepared under the historical cost convention and as per normally accepted accounting principles. The accounts are maintained on computer system and the hard prints of the Cash book and Ledger have been produced before us.
- 2) The Affiliation fees, AICTE fees paid, Magazine Contribution, Telephone bill, Electric bill, Vehicle Insurance, etc. are accounted on cash basis. The details of major Prior period and prepaid expenses are attached herewith (List No.24). It is informed by the Principal that this is the usual practice followed by the College and it has not have any material impact.
- 3) During the year under consideration the College has shown Development fund collected from students as Income and credited to Income and Expenditure A/c.
- 4) There is a system in the College to give advances to staff for the expenses to be incurred. It is necessary to recover these old advances and also the amount receivable from the Ex-Cashier V. L. Patil, Shri. Jadhav, against whom the cases were filed, as early as possible.
- 5) Depreciation on the assets has been charged on reducing balance method. The depreciation on the Movable assets is debited to Income and Expenditure A/c and credited to each Asset A/c and the value of movable assets are shown at W.D.V. on 31.3.2018. However, the depreciation on the Immovable Assets has been credited to Depreciation Fund A/c and the said assets are shown at cost price.
- 6) During the year under consideration an amount of Rs.2,39,20,607/- have been debited to Building Rent credited to Shrama Sadhana BombayTrust, Jalgaon branch.
- 7) It is necessary to pay the provisions for expenses payable as early as possible. The balances of Expenses payables, Banks, Fixed Deposits and interest thereon, balances of other current liabilities and current assets are subject to confirmation in the absence of necessary evidence.
- 8) During the year under consideration the Old TDS demand for tax and interest received from Income-tax Dept of Rs 96,500/-. The College recovered some TDS amount and balance amount of Rs 35,876 paid and debited to Income and Expenditure A/c.
- 9) During the year under consideration Coloring, Lab Expenses, Art work and Repair expenses, as given in List No. 4 have been undertaken by the College of Engineering & Technology Section. The college authorities have taken a stand and explained to us that having regard to the area of the College and investments in the assets, the expenditure incurred is of revenue nature, though the quantum of expenditure is very high; therefore, the same has been debited to Income and Expenditure Account.





R. N. Khairnar  
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RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2018

- 2 -

10) We have conducted audit in accordance with the auditing standards generally accepted in India. Those Standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material mis-statement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

FOR: R. N. KHAIRNAR & CO.,  
CHARTERED ACCOUNTANTS

PLACE : JALGAON.

DATED : 22nd Oct., 2018



(R.N.KHAIRNAR)  
PROPRIETOR  
M. NO.48440

RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2018

NOTES ON ACCOUNTS AND DISCLOSURE OF ACCOUNTING POLICIES

- 1) The accounts have been prepared under the historical cost convention and as per normally accepted accounting principle. However as per usual practice the AICTE and affiliation fees accounted on Cash basis.
- 2) Method of Accounting : The College has followed Mercantile system of accounting.
- 3) Depreciation:  
The depreciation has been charged at the rate prescribed under Income-tax Act, 1961 on the WDV on 1.4.2017, after considering addition / deletion to the asset during the year. The depreciation on the granted assets debited to respective Capital Grant Account.
- 4) Fixed Assets : The Immovable assets are shown at the Original Cost and rest of the movable assets are shown at W.D.V. on 31-03-2018.
- 5) Contingencies and Event occurring after the balance sheet date: No such event.
- 6) Prior period items: Generally no prior period expenses debited, except usual system followed by the College.
- 7) Investments: Investments in fixed deposits are shown at cost plus accrued interest upto 31-03-2018.
- 8) There is no extra ordinary items debited to Income and Expenditure A/c, which has material effect on the results during the year.
- 9) As per the regular practice the Board of Trustees, the College Rent of Rs. 2,39,20,607/- has been given to Shrama Sadhana Bombay Trust, Jalgaon Branch.

FOR : COLLEGE OF ENGG. & TECHNOLOGY,

  
(PRINCIPAL)

(TRUSTEE)

**PRINCIPAL**

SSBT's College of Engg. & Technolog  
Bambhori, Jalgaon-425061(M.S.)





# *R. N. Khairnar & CO.,*

## **CHARTERED ACCOUNTANTS**

267, "OM" BUILDING, BALIRAM PETH, JALGAON 425 001 [M S]  
PHONE NO (0257) 2220890, 2232374  
Email :ravindraca9@gmail.com

## **AUDIT REPORT**

|                      |  |
|----------------------|--|
| NAME OF THE ASSESSEE | SHRAMA SADHANA BOMBAY TRUST<br>COLLEGE OF ENGINEERING & TECHNOLOGY |
| ADDRESS              | AT & POST : BAMBHORI TAL : DHARANGAON<br>DIST : JALGAON :425001    |
| FINANCIAL YEAR.      | 31 <sup>TH</sup> MARCH, 2019.                                      |
| ASSESSMENT YEAR      | 2019-20.   |



R. N. Khairnar  
M. Com., D.B.M., F.C.A.

R. N. Khairnar & Co.,  
CHARTERED ACCOUNTANTS,  
"OM", 267, BALIRAM PETH,  
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**RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON**

**AUDITOR'S REPORT**

We have examined the attached Balance Sheet of **RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON as at 31st March, 2019** along with the Income and Expenditure Account for the year ended on that date, which are in agreement with the books of accounts maintained.

- 1) The proper books of Account are kept by the Institutions including that of each segment.
- 2) The Institution has followed Mercantile (accrual) system of accounting. The same system of accounting was followed by the Institute in immediate preceding previous year.
- 3) We have obtained all the information and explanations which to the best of our knowledge and belief, were necessary for the purposes of the audit and for determination of fees by the Authority.
- 4) The Accounts of the Institute are submitted by following Accounting Standard 17 or equivalent Ind AS and certified by us as true and fair representation of segmental reporting. The segment being every course for which the approval of the fees is sought before the Authority.
- 5) The Institute has maintained separate set of books of accounts for each segment.
- 6) In our opinion, and to the best of our information and according to explanations given to us, subject to remarks attached herewith, the said accounts, give a true and fair view :
  - (i) in the case of the balance sheet, of the state of the affairs of the Institute and segment as at 31st March, 2019 and
  - (ii) in the case of the income and expenditure account, of the Surplus of the institutes and segment for the year ended on that date.

PLACE : JALGAON

DATED : 12th Oct., 2019

For: R. N. KHAIRNAR & CO.  
(Chartered Accountants)



(R.N.KHAIRNAR)  
PROPRIETOR  
M.NO.048440



SHRAMA SADHANA BOMBAY TRUST's  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

INCOME AND EXPENDITURE for the year ending 31'st March, 2019

| 31/03/2018   | EXPENDITURE                            | 31/03/2019   | 31/03/2018   | INCOME                              | 31/03/2019   |
|--------------|--|--------------|--------------|-------------------------------------|--------------|
| 109993404.00 | To Salary Exp. (List-4A)               | 96190794.00  | 169135159.00 | By Tution Fee                       | 156791042.00 |
| 686200.00    | To Library Exp.(List-02)               | 188255.00    | 9521660.00   | By Other Income (List-10)           | 22930333.09  |
| 28542303.88  | To Other College Estab. Exp. (List-03) | 29721127.40  | 20703295.00  | By Student Fee (List-11)            | 19456888.00  |
| 5268725.00   | To Repair & Maintainance (List-04)     | 6755964.00   | 6004747.00   | STUDENT FEE-MBA STUDENT (List-11-A) | 5568770.00   |
| 11003696.60  | To Administrative Exp. (List-01)       | 9171295.55   | 2091027.00   | STUDENT FEE-ME STUDENT (List-11-B)  | 1113145.00   |
| 929310.00    | To Sport Exp. (List-06)                | 944540.00    |              |                                     |              |
| 1099646.00   | To Work-Shop & Lab. Exp. (List-07)     | 1573405.00   |              |                                     |              |
| 3496682.00   | To Student Act.Cul. & Welfare (List-8) | 3014779.00   |              |                                     |              |
| 3108223.00   | To Academic Exp. (List-5)              | 2063540.00   |              |                                     |              |
| 9195817.66   | To Depreciation Exp.(List-9)           | 9024821.30   |              |                                     |              |
| 2812580.26   | ME EXP. (Shedule-9-A)                  | 1562944.53   |              |                                     |              |
| 4138075.04   | MBA. (Shedule-9-B)                     | 3981119.65   |              |                                     |              |
| 180274663.44 | Total Expenditure                      | 164192585.43 |              |                                     |              |
| 27181224.56  | To Surplus tr. To Balance -Sheet       | 41667592.66  |              |                                     |              |
| 207455888.00 | Total :-                               | 205860178.09 | 207455888.00 | Total :-                            | 205860178.09 |

FOR: COLLEGE OF ENGINEERING AND TECHNOLOGY  
BAMBHORI, JALGAON

AS PER OUR REPORT EVEN DATE ATTACHED  
FOR R.N.KHAIRNAR & Co.  
CHARTERED ACCOUNTANTS

PRINCIPAL

TRUSTEE

PLACE : JLAGAON  
DATED: 12th October, 2019

(R.N.KHAIRNAR)  
PROPRIETOR  
M.NO.48440






SHRAMA SADHANA BOMBAY TRUST'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON

BALANCE-SHEET As At 31<sup>st</sup> March, 2019

| 31/03/2018   | LIABILITIES                        | 31/03/2019   | 31/03/2018   | ASSETS   | 31/03/2019   |
|--------------|------------------------------------|--------------|--------------|--|--------------|
| 106107701.42 | Ear Marked Fund (List-12)          | 108997329.50 | 13782870.53  | Immovable Property (List-15)                   | 15849685.55  |
| 7919016.00   | Sundry Deposit (List-13)           | 8082016.00   | 50387314.80  | Movable Property (List-16)                     | 46482487.38  |
| 9125360.00   | Current Liabilities (List-14)      | 3718835.50   | 58562784.00  | Investments (List-17)                          | 125062784.00 |
| 49720357.00  | Advance Fee of April-17 to June-17 | 45231842.00  | 1755907.00   | Deposits (List-18)                             | 1755907.00   |
| 16107571.00  | Payable Exp.                       | 60000.00     | 0.00         | <b>CURRENT ASSET &amp; LOAN &amp; ADVANCES</b> |              |
| 48912362.54  | Internal A/c (List-23)             | 42601352.89  | 86019.00     | Party Advance (List-19)                        | 71540.00     |
|              |                                    |              | 690944.82    | Staff Members Advance                          | 959680.82    |
|              | Income and Expenditure A/c:        |              | 9939602.25   | Receivables (List-20)                          | 12709424.17  |
|              | Op. Bal. 96762324.46               |              | 163311312.00 | Student Fee Receivable                         | 95844752.00  |
| 96762324.41  | Add: Cur. Yr. Surplus 41667592.66  | 138429917.12 | 8567241.48   | Internal Section A/c (List-21)                 | 12093314.22  |
|              |                                    |              | 5724.00      | Cash Balance                                   | 164982.00    |
|              |                                    |              | 27564975.52  | Bank Balance (List-22)                         | 36126741.84  |
|              | Notes to Accounts - Sch-25         |              |              |  |              |
| 334654692.37 | Total :-                           | 347121298.98 | 334654692.37 | Total :-                                       | 347121298.98 |


FOR: COLLEGE OF ENGINEERING AND TECHNOLOGY  
BAMBHORI, JALGAON

  
PRINCIPAL

TRUSTEE

PLACE : JALGAON  
DATED: 12th October, 2019

AS PER OUR REPORT EVEN DATE ATTACHED  
FOR R.N.KHAIRNAR & Co.  
CHARTERED ACCOUNTANTS

  
(R.N.KHAIRNAR)  
PROPRIETOR  
M.NO.48440





**COLLEGE OF ENGINEERING & TECH. BAMBHORI JALGAON**

**GROUP SUMMARY OF INDIRECT EXP As On-31/03/2019**

| <b>PARTICULARS</b>                          | <b>Amount</b>     |
|---|-------------------|
| <b>ADMINISTRATIVE EXP:- (LIST-1)</b>        |                   |
| Audit Fee                                   | 103000.00         |
| D.D./Cheque Clearing & Bank Service Charges | 38549.99          |
| Local Conveyance Charges For Office work    | 75174.00          |
| Labour Payment                              | 418470.00         |
| Electric Bill (MSEB)                        | 4623153.76        |
| Canteen & Mess Exp for Staff                | 297366.00         |
| Examination Expenses                        | 164497.00         |
| Generator Exp.                              | 294501.00         |
| Water Bill (Girna)                          | 224172.00         |
| Water Supply Exp.                           | 616512.00         |
| Meeting Exp.                                | 48091.00          |
| Misc. Expenses                              | 29133.60          |
| Office Expenses                             | 184357.00         |
| Postage & Telegram                          | 35455.00          |
| Printing & Stationary                       | 587112.94         |
| Professional Charges                        | 278427.00         |
| Telephone & Mobile Bill                     | 164273.66         |
| Transport Charges                           | 10080.00          |
| T.A.D.A.Exp.for Office Work                 | 411257.00         |
| Vehical Repair. & maint.                    | 171206.00         |
| Vehical Tax & Insurance                     | 50846.60          |
| Vehical Fuel Exp.                           | 253854.00         |
| Zerox Exp.                                  | 91806.00          |
| <b>TOTAL:-</b>                              | <b>9171295.55</b> |

| <b>LIBRARY Exp. (LIST-2)</b>                                  | <b>Amount</b>    |
|---|------------------|
| Library Exp.  | 76200.00         |
| Magazine, Journals , E-Journals, Periodicals & Other Lib.Exp. | 66099.00         |
| News Paper Exp.   | 45956.00         |
| <b>TOTAL:-</b>  | <b>188255.00</b> |





| OTHER COLLEGE ESTABLISHMENT EXP.(LIST-3)                        | Amount             |
|---|--------------------|
| Accreditation Exp.  |                    |
| Financial Aid to Poor Students Under College Scholarship Scheme | 265500.00          |
| Financial Aid to Martyr Solodiers Family                        | 102000.00          |
| Hospitality Exp.  | 67602.00           |
| Admission Process Fee To ARA                                    | 118155.40          |
| Building Rent   | 24183953.00        |
| Antivirus Purchasing  | 23000.00           |
| Tree Plant & Lawn Exp.  | 274786.00          |
| Flex & Hoarding Exp.  | 321665.00          |
| Class Room Exp.   | 239722.00          |
| Colouring Exp.  | 1697765.00         |
| Unnat Bharat Abhiyan  | 8484.00            |
| Guest House Exp.  | 247376.00          |
| Software Maint. Exp.  | 51684.00           |
| Name Plate & Board Exp.   | 30400.00           |
| Advertisement Exp.  | 800161.00          |
| Earthing Exp.   | 271347.00          |
| Main Gate Decorative Work                                       | 65914.00           |
| Seminar Hall Exp.   | 9172.00            |
| Architect Fee   | 153316.00          |
| Radio Advertisement   | 512616.00          |
| Parking Exp   | 29854.00           |
| Campus Cleaning and College Development Exp.                    | 246655.00          |
| <b>TOTAL:-</b>  | <b>29721127.40</b> |

| REPAIR & MAINT. (LIST-4)                    | Amount            |
|---|-------------------|
| Building Rep. & Maint.                      | 1253562.00        |
| Retaining Wall Maint.                       | 60000.00          |
| Old Weak Security Wall Rep.& Maint.         | 1993190.00        |
| Electrical Instrument Repairing Exp.        | 901876.00         |
| Furniture Repair & Maint.                   | 416292.00         |
| Rain Water Pipe Drainage Line Rep. & Maint. | 54840.00          |
| Toilet Block Repair & Maint.                | 748020.00         |
| Other Repair & Maint.                       | 66953.00          |
| Sanitary Exp.                               | 652303.00         |
| I.T.Toilet Repairing Exp.                   | 528552.00         |
| Street Light Repairing Exp.                 | 40376.00          |
| Windos Rpairing Exp.                        | 40000.00          |
| <b>TOTAL:-</b>                              | <b>6755964.00</b> |





| <b>SALARY EXP. (LIST-4A)</b>      | <b>Amount</b>      |
|-----------------------------------|--------------------|
| PF Administrative Charges         | 387718.00          |
| Basic Pay                         | 46154509.00        |
| D.A.                              | 26718582.00        |
| Family Pension                    | 2937059.00         |
| H.R.A.                            | 4358659.00         |
| Salary Increment & Other Payment. | 782990.00          |
| Link Insurance                    | 176236.00          |
| P.F. (Employee)                   | 972019.00          |
| Regional Insurance                | 3527.00            |
| Security Service Contract         | 2352700.00         |
| Special Allowance                 | 155660.00          |
| Visiting Lecturer Remuneration    | 123975.00          |
| L.I.C.Gratuity Scheme Premium     | 800000.00          |
| EL Encashment                     | 444290.00          |
| Annual Grade Pay                  | 9762718.00         |
| Salary Arrears                    | 60152.00           |
| <b>TOTAL:-</b>                    | <b>96190794.00</b> |

| <b>Academic Exp. (LIST-5)</b>                | <b>Amount</b>     |
|--|-------------------|
| Admission & Education Fare                   | 301221.00         |
| AICTE Fee                                    | 200000.00         |
| Registration & Affiliation Fee               | 245000.00         |
| SST Research Pramotion Scheme                | 101348.00         |
| Waist Water                                  | 101550.00         |
| Work-shop & Seminar Fee                      | 54624.00          |
| Student Induction Programme                  | 100277.00         |
| Inter-National Journals                      | 10878.00          |
| Lab Development Exp.                         | 109675.00         |
| Staff Welfare, Incentive, & Mediclaim Policy | 254541.00         |
| IUCEE Consrtium Membership Fees              | 66950.00          |
| Science Exhibition                           | 4135.00           |
| Faculty Academic Diary & Test Paper          | 29400.00          |
| Faculty Paper Presentaion Fee                | 48000.00          |
| Envirnment Studes Exp                        | 140902.00         |
| T.V.Advertisement                            | 146530.00         |
| Staff Recruitment Exp.                       | 148509.00         |
| <b>TOTAL:-</b>                               | <b>2063540.00</b> |





| Sport Exp. (LIST-6) | Amount           |
|---------------------|------------------|
| Play ground Exp.    | 305990.00        |
| Pro-Rata Fees       | 57178.00         |
| Sport Exp.          | 581372.00        |
| <b>TOTAL:-</b>      | <b>944540.00</b> |

| Workshop & Laboratory Exp.(List-7) | Amount            |
|------------------------------------|-------------------|
| Applied Science Exp.               | 141078.00         |
| Bio Tecnology Exp.                 | 7410.00           |
| Chemical Lab Exp.                  | 11852.00          |
| Civil Lab Exp.                     | 113011.00         |
| Computer Lab Exp.                  | 94022.00          |
| Electrical lab Exp.                | 27469.00          |
| Electronics Lab Exp.               | 43965.00          |
| I.T.Lab Exp.                       | 6464.00           |
| Mechanical Lab Exp.                | 192618.00         |
| Language Lab Exp.                  | 123111.00         |
| Workshop Exp.                      | 154744.00         |
| Microsoft Campus Agreement         | 370270.00         |
| Centralised Networking Exp.        | 287391.00         |
| <b>TOTAL</b>                       | <b>1573405.00</b> |





| <b>Student Activity ,Culturur &amp; Welfare Sec.(list-8)</b> | <b>Amount</b>     |
|--|-------------------|
| Internet Exp.  | 811353.00         |
| Medical Aid  | 83666.00          |
| Parents Meeting Exp.   | 10000.00          |
| Alumni Exp.  | 23130.00          |
| Student Activity ,Culturur & incentive Exp.                  | 207752.00         |
| Training Placement Exp.                                      | 330964.00         |
| Student Counseling   | 947714.00         |
| Earn & Learn Scheme  | 66440.00          |
| Inter-National Conference                                    | 152474.00         |
| Web-Site Exp   | 96878.00          |
| Yoga Day Exp.  | 10779.00          |
| HACKATHON New Delhi  | 59444.00          |
| Blood Donation Camp  | 3000.00           |
| Robo-Con Competition   | 211185.00         |
| <b>TOTAL:-</b>   | <b>3014779.00</b> |

| <b>Depreciation Exp.(list-9)</b>      |                   |
|---------------------------------------|-------------------|
| Depreciation on Immovable Property    | 641739.82         |
| Depreciation on Machinery & Equipment | 8383081.48        |
| <b>TOTAL:-</b>                        | <b>9024821.30</b> |

| <b>ME EXP. (Shedule-9-A)</b>       |                   |
|------------------------------------|-------------------|
| Salary Exp.                        | 1082992.00        |
| ME Project Remuneration            | 87000.00          |
| Affiliation Fee                    | 150000.00         |
| Electric Bill                      | 23342.70          |
| Laboratory Renewal Fee             | 37053.00          |
| Admission Regulating Authority Fee | 26695.40          |
| Advertisement Exp.                 | 133360.00         |
| Depreciation Exp.                  | 22501.43          |
| <b>TOTAL:-</b>                     | <b>1562944.53</b> |

| <b>MBA. (Shedule-9-B)</b>          |                   |
|------------------------------------|-------------------|
| Salary Exp.                        | 2800943.00        |
| Affiliation Fee                    | 40000.00          |
| Electric Bill                      | 84020.01          |
| Advertisement Exp                  | 284528.00         |
| Admission Regulating Authority Fee | 32635.40          |
| Internet Exp.                      | 143180.00         |
| Printing & Stationary              | 103608.00         |
| Flex & Hoarding                    | 80416.00          |
| Depreciation Exp.                  | 194294.24         |
| Other Exp.                         | 217495.00         |
| <b>TOTAL:-</b>                     | <b>3981119.65</b> |





| <b>OTHER INCOME (LIST-10)</b>                |                    |
|--|--------------------|
| Bank Interest                                | 8663987.00         |
| Other Misc. Income                           | 247047.09          |
| Bus Conveyance Charges                       | 548578.00          |
| Attendance & Other Fine                      | 81575.00           |
| On-Line Exam Fee                             | 62009.56           |
| Digital Valuation Center                     | 667909.92          |
| Provisional Adm.Fee                          | 149000.00          |
| ARC Exam.Remuneration                        | 49622.52           |
| Laboratory Fee (Research)                    | 198000.00          |
| Salary Recovery                              | 74316.00           |
| Building Usage Charges (PMKVY)               | 200000.00          |
| Equipment & Instrument Usage Charges         | 200000.00          |
| Question Paper & Stationary Charges From NMU | 47280.00           |
| Testing Consultancy Charges                  | 1036648.00         |
| Remission A/c                                | 10704360.00        |
| <b>TOTAL:-</b>                               | <b>22930333.09</b> |

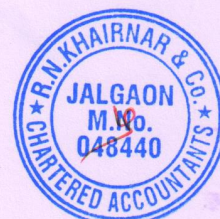
| <b>STUDENT FEE (LIST-11)</b>                       |                    |
|--|--------------------|
| Development Fee                                    | 16455310.00        |
| Students -Broadband, Accr., Gymnasium & Other Fees | 776587.00          |
| University Fee                                     | 2224991.00         |
| <b>TOTAL:-</b>                                     | <b>19456888.00</b> |

**Tution Fee**

**156791042.00**

| <b>STUDENT FEE-MBA STUDENT (List-11-A)</b> |                   |
|--|-------------------|
| Tution Fee                                 | 4934524.00        |
| Development Fee                            | 493476.00         |
| University Fee                             | 140770.00         |
| <b>TOTAL:-</b>                             | <b>5568770.00</b> |

| <b>STUDENT FEE-ME STUDENT (List-11-B)</b> |                   |
|---|-------------------|
| Tution Fee                                | 983713.00         |
| Development Fee                           | 98362.00          |
| University Fee                            | 31070.00          |
| <b>TOTAL:-</b>                            | <b>1113145.00</b> |





| ACCOUNT NAME  | AMOUNT      | AMOUNT              |
|---|-------------|---------------------|
| <b>Earmarked Fund List-12</b>                         |             |                     |
| Building Fund : Op. Bal.                              | 562471.31   |                     |
| Capital Exp. Reserved Fund: Op. Bal.                  | 38960000.00 |                     |
| College Development Fund: Op. Bal.                    | 3600000.00  |                     |
| Corpus Fund: Op. Bal.                                 | 4300000.00  |                     |
| Dep. Fund of Immovable Property 6834917.55            |             |                     |
| Add: Cur. Yr. Dep. 833816.04                          | 7668733.59  |                     |
| Development Fund : Op. Bal. 47319469.00               |             |                     |
| Add : Cur. Year 00                                    | 47319469.00 |                     |
| Grant from NSTEDB ,DST New Delhi: Op.Bal.             | 530000.00   |                     |
| Grant from AICTE Under MODROBS Scheme                 |             |                     |
| Op. Bal. 2525176.00                                   |             |                     |
| Add : Cur. Year 00                                    | 2525176.00  |                     |
| Library Book Grant : Op. Bal.                         | 386500.00   |                     |
| I.I.T.Grant   | 134897.05   |                     |
| RGSTC Grant   | 686024.55   |                     |
| Gratuity Fund (Claim) : Op. Bal.                      | 2055812.00  |                     |
| Renewable Energy Club Grant: Op.Bal.                  | 11500.00    |                     |
| Minor Research Grant : Cur. Year (362000-86824-18430) | 256746.00   |                     |
|   |             | <b>108997329.50</b> |

|                              |            |                   |
|------------------------------|------------|-------------------|
| <b>Sudry Deposit List-13</b> |            |                   |
| Caution Money Deposit        | 7985900.00 |                   |
| Security Deposit             | 96116.00   |                   |
|                              |            | <b>8082016.00</b> |

|  |            |                   |
|--|------------|-------------------|
| <b>Current Liabilities List-14</b>             |            |                   |
| NMU VCRPG Grant (Advance)                      | 3450.00    |                   |
| Withheld Salary Payment                        | 958923.00  |                   |
| ARC Engg. & Pharma. Exam Remuneration          | 60650.00   |                   |
| Misc. Grant                                    | 14000.00   |                   |
| G.S.T. Payable                                 | 108449.00  |                   |
| Practical Exam. Bill Payable to Staff          | 62535.00   |                   |
| Registration Fee for EAC (IEDC)                | 71400.00   |                   |
| Registration fee for Project Exhibition (IEDC) | 78650.00   |                   |
| PMKV Yojana                                    | 90232.00   |                   |
| Vikas Power System                             | 34666.00   |                   |
| SST Skill Dev. Fee                             | 77000.00   |                   |
| Excess Crdited Fee                             | 1032151.00 |                   |
| Term Work Bill Payable                         | 849819.00  |                   |
| 7 Parrallels Techno-Consultants Pvt Limited    | 85687.50   |                   |
| New Shree Jay Ambe Tent House                  | 66141.00   |                   |
| Sanjay D. Bhole                                | 70082.00   |                   |
| Atul Zirafe                                    | 55000.00   |                   |
|  |            | <b>3718835.50</b> |





| <b>Investment List-17</b>                              |              |                     |
|--|--------------|---------------------|
| FD With Bank Of Maharashtra Bambhori (Short-Term)      | 119000000.00 |                     |
| FD With Bank Of Mah. Bandra                            | 1000000.00   |                     |
| FD With Bank Of Maharashtra (Joint A/c DTE & NMU Jal.) | 5062784.00   |                     |
|  |              | <b>125062784.00</b> |

| <b>Deposit List-18</b>                     |            |                   |
|--|------------|-------------------|
| Bhushan Gas Agency                         | 2000.00    |                   |
| Book Bank Deposit                          | 500.00     |                   |
| Broad Band Internet Service Deposit (BSNL) | 1500.00    |                   |
| Gas Sylender Deposit (Payal Gas)           | 23000.00   |                   |
| Internet Deposit                           | 24750.00   |                   |
| M.S.E.B. Deposit                           | 1618557.00 |                   |
| Security Deposit With BSNL A/c             | 21000.00   |                   |
| Shrish Gas Agency                          | 6815.00    |                   |
| Telephone Deposit                          | 36720.00   |                   |
| Gas Sylender Deposit (Jalgaon Gas)         | 9850.00    |                   |
| Water Supply Deposit                       | 11215.00   |                   |
|  |            | <b>1755907.00</b> |

| <b>Party Advance List-19</b>          |          |                 |
|---------------------------------------|----------|-----------------|
| Essential Equipments                  | 47500.00 |                 |
| Eco Friendly Electric Vehicle PVT LTD | 24040.00 |                 |
|                                       |          | <b>71540.00</b> |

| <b>Receivable List-20</b>                        |            |                    |
|--|------------|--------------------|
| Bharatsing N.jadhav Misappropriation A/c:Op.Bal. | 209106.00  |                    |
| Interest Accrued (FDR)                           | 9455139.00 |                    |
| Student Welfare A/c                              | 2400.00    |                    |
| Spectrum Enterprises                             | 133339.00  |                    |
| IEDC Grant NSTEDB                                | 142952.00  |                    |
| TDS On Intrest ON FDR (A.Y.-2017-18)             | 106437.00  |                    |
| TDS In Intrest On FDR (A.Y.-2018-19)             | 42049.00   |                    |
| TDS Receivable (A.Y.-2018-19)                    | 2648.00    |                    |
| TDS In Intrest On FDR (A.Y.-2019-20)             | 751945.00  |                    |
| TDS on Other Act.(A.Y.-2019-209)                 | 68127.92   |                    |
| Exam. Advance Bill Receivable From NMU           | 283147.00  |                    |
| Extra Exam Fee to DTE Nashik                     | 65196.00   |                    |
| Income Tax                                       | 25000.00   |                    |
| TDS Receivable (Int.on MSEB Sec.Deposit)         | 15102.00   |                    |
| Scholarship A/c                                  | 41587.50   |                    |
| V.L.Patil (Cash Balance-Receivable Op. Bal.)     | 1365248.75 |                    |
|  |            | <b>12709424.17</b> |

| <b>Internal Section A/c (Dr) List-21</b> |             |  |
|--|-------------|--|
| SST Pharmacy                             | 11749360.22 |  |



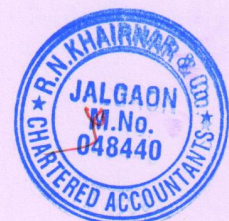


|  |             |                    |
|--|-------------|--------------------|
| New Polytechnic A/c                          | 10915.00    |                    |
| N.M.U. Exam. A/c                             | 333039.00   |                    |
|  |             | <b>12093314.22</b> |
| <b>Internal Section A/c (Cr.) List-23</b>    |             |                    |
| Hostel A/c                                   | 13896246.91 |                    |
| Shrama Sadhana Trust Mumbai (Jalgaon Branch) | 15451106.04 |                    |
| SST Mumbai                                   | 1040843.00  |                    |
| Student Activity Section                     | 12213156.94 |                    |
|  |             | <b>42601352.89</b> |

|  |             |                    |
|--|-------------|--------------------|
| <b>Bank Balance List-22</b>                        |             |                    |
| Bank Of Mah. Bandra                                | 262290.22   |                    |
| Bank Of Mah. Jalgaon                               | 498576.56   |                    |
| Bank Of Maharashtra Bambhori(See Recon.)           | 31002249.14 |                    |
| Maharashtra Bank MBA A/c                           | 7306.00     |                    |
| State Bank Of India, Jalgaon                       | 590811.32   |                    |
| Bank of Mah (Trustee College of Engg. & Tech. Bamb | 3378460.00  |                    |
| Maharashtra Bank Grant A/c (60095290394)           | 6352.00     |                    |
| Maharashtra Bank AICTE Grant A/c                   | 222201.00   |                    |
| Maharashtra Bank IEDC Grant A/c                    | 151317.00   |                    |
| Maharashtra Bank SSBT COET                         | 7178.60     |                    |
|  |             | <b>36126741.84</b> |

**Details of Prior Period and Prepaid items : List 24 :**

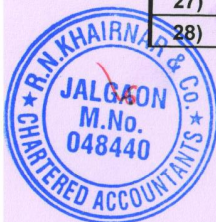
|                                |           |           |
|--------------------------------|-----------|-----------|
|                                |           |           |
| <b>a. Prior Period Items :</b> |           |           |
| Telephone bill                 | 2825.00   |           |
| Electric Bill                  | 4660.00   |           |
| Salary Arrears                 | 60152.00  | 67637.00  |
| <b>b. Prepaid Items :</b>      |           |           |
| Affiliation Fees               | 430000.00 |           |
| Vehicle Tax                    | 55065.00  |           |
| Microsoft Licence Fees         | 277703.00 |           |
| Vehicle Insurance              | 256340.00 |           |
| Liabrary Subscriptions         | 49125.00  | 638233.00 |
|                                |           |           |





SHRAMA SADHANA BOMBAY TRUST'S, MUMBAI  
COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI, JALGAON  
LIST NO. 16 : MOVABLE PROPERTIES AS ON 31/03/2019

| Sr. No. | SECTION                                | BALANCE AS ON 31/03/2018 | ADDITIONS DURING YEAR BEFORE SEPT:-2018 | ADDITIONS DURING YEAR After SEPT:-2018 | TOTAL       | RATE | CURRENT YEAR DEPRECIATION | W.D.V. AS AT 31/03/2019 | TOTAL DEPRE. AS ON 31/03/2018 | GROSS VALUE AS ON 31/03/2019 |
|---------|--|--------------------------|---|--|-------------|------|---------------------------|-------------------------|-------------------------------|------------------------------|
| (A)     | (B)                                    | (C)                      | (D)                                     | (E)                                    | (F)         | (G)  | (H)                       | (I)                     | (J)                           | (K)                          |
|         | <b>A) MACHINERY &amp; EQUIPMENTS</b>   |                          |   |  |             |      |                           |                         |                               |                              |
| 1)      | LIBRARY SECTION                        | 2699639.09               | 3152.00                                 | 253193.00                              | 2955984.09  | 25%  | 707346.90                 | 2248637.19              | 18262794.34                   | 21218778.43                  |
| 2)      | SPORTS & GYMKHANA                      | 541002.82                | 0.00                                    | 0.00                                   | 541002.82   | 15%  | 81150.42                  | 459852.40               | 1267394.47                    | 1808397.29                   |
| 3)      | ELECTRIC TRANSFORMER                   | 6067.32                  | 0.00                                    | 0.00                                   | 6067.32     | 15%  | 910.10                    | 5157.22                 | 1197379.86                    | 1203447.18                   |
| 4)      | CIVIL ENGG. EQUIPMENT                  | 1861680.16               | 116600.00                               | 0.00                                   | 1978280.16  | 15%  | 296742.02                 | 1681538.14              | 5293828.87                    | 7272109.03                   |
| 5)      | MECHANICAL ENGG.EQUIP. (PROD.)         | 1288247.64               | 0.00                                    | 17700.00                               | 1305947.64  | 15%  | 194564.65                 | 1111382.99              | 5159611.56                    | 6465559.20                   |
| 6)      | CAD/CAM COMPUTER                       | 0.07                     | 0.00                                    | 0.00                                   | 0.07        | 40%  | 0.03                      | 0.04                    | 1601598.86                    | 1601598.93                   |
| 7)      | ELECTRONICS ENGG. EQUIPMENTS           | 2181860.29               | 0.00                                    | 0.00                                   | 2181860.29  | 15%  | 327279.04                 | 1854581.25              | 10835574.13                   | 13017434.42                  |
| 8)      | COMPUTER ENGG. EQUIPMENT               | 218480.98                | 0.00                                    | 0.00                                   | 218480.98   | 40%  | 87392.39                  | 131088.59               | 29312715.14                   | 29531196.12                  |
| 9)      | I.T. LAB EQUIPMENT                     | 236419.61                | 0.00                                    | 0.00                                   | 236419.61   | 40%  | 94567.84                  | 141851.77               | 5961153.05                    | 6197572.66                   |
| 10)     | WORK-SHOP SECTION TOOLS & MACHINERY    | 20977.57                 | 0.00                                    | 0.00                                   | 20977.57    | 15%  | 3146.64                   | 17830.93                | 5892118.42                    | 5913095.99                   |
| 11)     | FURNITURE & EQUIPMENTS                 | 22846798.56              | 109439.00                               | 791976.00                              | 23748213.56 | 15%  | 3502833.83                | 20245379.73             | 26906713.75                   | 50654927.31                  |
| 12)     | VEHICLE                                | 4211910.12               | 0.00                                    | 0.00                                   | 4211910.12  | 15%  | 631786.52                 | 3580123.60              | 5686995.00                    | 9898905.12                   |
| 13)     | STREET LIGHTING & ELE. EQUIPMENT       | 156281.98                | 0.00                                    | 0.00                                   | 156281.98   | 15%  | 23442.30                  | 132839.68               | 200219.03                     | 356501.01                    |
| 14)     | CHEMICAL ENGG. EQUIPMENT               | 1040162.59               | 0.00                                    | 0.00                                   | 1040162.59  | 15%  | 156024.39                 | 884138.20               | 3653290.91                    | 4693453.50                   |
| 15)     | PROJECT A/C FOR MECHANICAL             | 4613.28                  | 0.00                                    | 0.00                                   | 4613.28     | 15%  | 691.99                    | 3921.29                 | 180127.17                     | 184740.45                    |
| 16)     | TELEPHONE SYSTEM INSTALLMENT           | 110029.34                | 0.00                                    | 0.00                                   | 110029.34   | 15%  | 16504.40                  | 93524.94                | 175032.25                     | 285061.59                    |
| 17)     | COMPUTER EQUIPMENT (MECHANICAL)        | 0.00                     | 0.00                                    | 0.00                                   | 0.00        | 40%  | 0.00                      | 0.00                    | 142687.95                     | 142687.95                    |
| 18)     | APPLIED SCIENCE                        | 461369.27                | 0.00                                    | 58245.00                               | 519614.27   | 15%  | 73573.77                  | 446040.50               | 667292.18                     | 1186906.45                   |
| 19)     | ELECTRICAL EQUIPMENT                   | 1491811.29               | 0.00                                    | 98400.00                               | 1590211.29  | 15%  | 231151.69                 | 1359059.60              | 2187840.40                    | 3778051.69                   |
| 20)     | ELECTRICAL LAB EQUIPMENT               | 1663707.28               | 127678.00                               | 0.00                                   | 1791385.28  | 15%  | 268707.79                 | 1522677.49              | 2398134.68                    | 4189519.96                   |
| 21)     | LAB DEVELOPMENT EXP.                   | 247174.61                | 0.00                                    | 0.00                                   | 247174.61   | 15%  | 37076.19                  | 210098.42               | 1263967.30                    | 1511141.91                   |
| 22)     | OFFICE EQUIPMENT                       | 993281.15                | 0.00                                    | 0.00                                   | 993281.15   | 15%  | 148992.17                 | 844288.98               | 859254.94                     | 1852536.09                   |
| 23)     | COMPUTER CENTER EQUIPMENT              | 139.90                   | 0.00                                    | 0.00                                   | 139.90      | 40%  | 55.96                     | 83.94                   | 1410463.87                    | 1410603.77                   |
| 24)     | ELECTRONIC OFFICE EQUIPMENT            | 23969.50                 | 0.00                                    | 0.00                                   | 23969.50    | 15%  | 3595.43                   | 20374.08                | 253007.90                     | 276977.40                    |
| 25)     | I.T.LAB DEVELOPMENT                    | 206481.65                | 0.00                                    | 0.00                                   | 206481.65   | 15%  | 30972.25                  | 175509.40               | 501234.78                     | 707716.43                    |
| 26)     | HAND LORRY PURCHASE                    | 925.06                   | 0.00                                    | 0.00                                   | 925.06      | 15%  | 138.76                    | 786.30                  | 3544.35                       | 4469.41                      |
| 27)     | OFFICE COMPUTER SOFTWARE               | 27781.08                 | 0.00                                    | 0.00                                   | 27781.08    | 40%  | 11112.43                  | 16668.65                | 487028.22                     | 514809.30                    |
| 28)     | APPLIED SCIENCE COMPUTER LAB EQUIPMENT | 14113.79                 | 15750.00                                | 0.00                                   | 29863.79    | 40%  | 11945.52                  | 17918.27                | 702227.07                     | 732090.86                    |





|             |  |             |           |            |             |     |            |             |              |              |
|-------------|--|-------------|-----------|------------|-------------|-----|------------|-------------|--------------|--------------|
| 29)         | CHEMICAL LAB COMPUTER EQUIPMENT        | 12616.37    | 0.00      | 0.00       | 12616.37    | 40% | 5046.55    | 7569.82     | 1066936.33   | 1079552.70   |
| 30)         | CIVIL LAB COMPUTER EQUIPMENT           | 34539.78    | 0.00      | 0.00       | 34539.78    | 40% | 13815.91   | 20723.87    | 653974.59    | 688514.37    |
| 31)         | ELECTRICAL LAB COMPUTER EQUIPMENT      | 5987.21     | 0.00      | 0.00       | 5987.21     | 40% | 2394.88    | 3592.33     | 1136306.12   | 1142293.33   |
| 32)         | E. & T.C. LAB COMPUTER EQUIPMENT       | 63570.95    | 0.00      | 0.00       | 63570.95    | 40% | 25428.38   | 38142.57    | 1747179.67   | 1810750.62   |
| 33)         | MECHANICAL LAB COMPUTER EQUIPMENT      | 55933.94    | 0.00      | 0.00       | 55933.94    | 40% | 22373.58   | 33560.36    | 1631049.88   | 1686983.82   |
| 34)         | OFFICE COMPUTER EQUIPMENT              | 14438.94    | 0.00      | 0.00       | 14438.94    | 40% | 5775.58    | 8663.36     | 1336643.72   | 1351082.66   |
| 35)         | TRAINING & PLACEMENT COMPUTER EQUIP.   | 2389.66     | 0.00      | 0.00       | 2389.66     | 40% | 955.86     | 1433.80     | 95716.33     | 98105.99     |
| 36)         | GARDEN WORK EQUIPMENT                  | 193355.86   | 0.00      | 0.00       | 193355.86   | 15% | 29003.38   | 164352.48   | 119420.10    | 312775.96    |
| 37)         | LAP TOP EQUIPMENT                      | 61242.22    | 0.00      | 42150.00   | 103392.22   | 40% | 32926.89   | 70465.33    | 415456.93    | 518849.15    |
| 38)         | ME - CIVIL EQUIPMENT                   | 91145.71    | 0.00      | 0.00       | 91145.71    | 15% | 13671.86   | 77473.85    | 205205.78    | 296351.49    |
| 39)         | ME - MECHANICAL EQUIPMENT              | 58863.77    | 0.00      | 0.00       | 58863.77    | 15% | 8829.57    | 50034.20    | 327662.84    | 386526.61    |
| 40)         | MOBILE PURCHASE                        | 6023.29     | 0.00      | 0.00       | 6023.29     | 15% | 903.49     | 5119.80     | 29237.98     | 35261.27     |
| 41)         | T.V.PURCHASE                           | 28018.57    | 0.00      | 0.00       | 28018.57    | 15% | 4202.79    | 23815.78    | 42796.94     | 70815.51     |
| 42)         | SOUND SYSTEM                           | 81842.64    | 0.00      | 0.00       | 81842.64    | 15% | 12276.40   | 69566.24    | 69785.26     | 151627.90    |
| 43)         | WATER SUPPLY EQUIPMENT                 | 691786.25   | 0.00      | 0.00       | 691786.25   | 15% | 103767.94  | 588018.31   | 315940.48    | 1007726.73   |
| 44)         | BIO-TECHNOLOGY EQUIPMENT               | 898040.07   | 0.00      | 0.00       | 898040.07   | 15% | 134706.01  | 763334.06   | 2004868.41   | 2902908.48   |
| 45)         | PROJECTOR PURCHASING                   | 566976.81   | 0.00      | 66300.00   | 633276.81   | 15% | 90019.02   | 543257.79   | 606027.79    | 1239304.60   |
| 46)         | LIBRARY COMPUTER EQUIP.                | 2307.86     | 0.00      | 0.00       | 2307.86     | 40% | 923.14     | 1384.72     | 164976.26    | 167284.12    |
| 47)         | BOR-WELL & SUBMERCIBLE PUMP            | 130209.95   | 0.00      | 0.00       | 130209.95   | 15% | 19531.49   | 110678.46   | 84260.80     | 214470.75    |
| 48)         | CLOSE CURCIT CAMERA                    | 6233.40     | 0.00      | 6700.00    | 12933.40    | 15% | 1437.51    | 11495.89    | 25104.42     | 38037.82     |
| 49)         | CORDLESS SPEAKER SYSTEM                | 6610.54     | 0.00      | 0.00       | 6610.54     | 15% | 991.58     | 5618.96     | 26623.33     | 33233.87     |
| 50)         | DIGITAL CAMERA PURCHASE                | 255320.99   | 0.00      | 0.00       | 255320.99   | 15% | 38298.15   | 217022.84   | 141154.98    | 396475.97    |
| 51)         | ZEROX MACHINE                          | 116828.21   | 0.00      | 0.00       | 116828.21   | 15% | 17524.23   | 99303.98    | 53133.11     | 169961.32    |
| 52)         | M.B.A.EQUIPMENT (COMPUTER)             | 5545.04     | 0.00      | 0.00       | 5545.04     | 40% | 2218.02    | 3327.02     | 59548.61     | 65093.65     |
| 53)         | Virtual Class Room Set -Up (IIT Grant) | 186185.18   | 0.00      | 0.00       | 186185.18   | 15% | 27927.78   | 158257.40   | 170817.83    | 357003.01    |
| 54)         | RGST Grant Equipment                   | 434198.44   | 0.00      | 0.00       | 434198.44   | 15% | 65129.77   | 369068.67   | 1564697.03   | 1998895.47   |
| 55)         | Centralised Networking Instrument      | 317433.37   | 0.00      | 0.00       | 317433.37   | 15% | 47615.01   | 269818.36   | 205995.86    | 523429.23    |
| 56)         | BIO-TECHNOLOGY COMPUTER                | 12048.66    | 0.00      | 0.00       | 12048.66    | 40% | 4819.46    | 7229.20     | 183371.62    | 195420.28    |
| 57)         | Grid Solar Power Plant                 | 3492698.25  | 0.00      | 2795687.50 | 6288385.75  | 15% | 733581.30  | 5554804.45  | 0.00         | 6288385.75   |
| TOTAL:- (A) |  | 50387314.80 | 372619.00 | 4130351.50 | 54890288.43 |     | 8407800.93 | 46482487.38 | 146947123.92 | 201837411.88 |





SHRAMA SADHANA BOMBAY TRUST'S, MUMBAI  
COLLEGE OF ENGINEERING AND TECHNOLOGY, BAMBHORI, JALGAON  
LIST NO. 15 : IMMOVABLE PROPERTIES AS ON 31/03/2019

| Sr. No. | SECTION                            | W.D.V. AS AT 31/03/2018 | ADDITIONS DURING YEAR |                  | TOTAL             | RATE | CURRENT YEAR DEPRECIATION | W.D.V. AS AT 31/03/2019 | TOTAL DEP. AS ON 31/03/2018 | GROSS VALUE AS ON 31/03/2019 |
|---------|------------------------------------|-------------------------|-----------------------|------------------|-------------------|------|---------------------------|-------------------------|-----------------------------|------------------------------|
| (A)     | (B)                                | (C)                     | BEFORE SEPT.,2018     | AFTER SEPT.,2018 | (F)               | (G)  | (H)                       | (I)                     | (J)                         | (K)                          |
|         | A) COLLEGE DEVELOPMENT A/C         |                         |                       |                  |                   |      |                           |                         |                             |                              |
| 1)      | CANTEEN SHOP CONSTRUCTION          | 101492.76               | 0.00                  | 0.00             | 101492.76         | 5%   | 5074.64                   | 96418.12                | 191773.24                   | 293266.00                    |
| 2)      | PUMP HOUSE & WATER TANK            | 48547.23                | 0.00                  | 0.00             | 48547.23          | 5%   | 2427.36                   | 46119.87                | 92490.87                    | 141038.10                    |
| 3)      | COLLEGE ROAD                       | 70034.49                | 0.00                  | 0.00             | 70034.49          | 10%  | 7003.45                   | 63031.04                | 570023.04                   | 640057.53                    |
| 4)      | WATCHMAN ROOM & MAIN GATE          | 47702.28                | 0.00                  | 0.00             | 47702.28          | 5%   | 2385.11                   | 45317.17                | 92367.14                    | 140069.42                    |
| 5)      | CYCLE STAND                        | 62464.39                | 0.00                  | 0.00             | 62464.39          | 5%   | 3123.22                   | 59341.17                | 120950.98                   | 183415.37                    |
| 6)      | BUS STAND SHEAD                    | 41396.89                | 0.00                  | 0.00             | 41396.89          | 5%   | 2069.84                   | 39327.05                | 74080.13                    | 115477.02                    |
| 7)      | SARVANT QUARTER EXP.               | 19304.47                | 0.00                  | 0.00             | 19304.47          | 5%   | 965.22                    | 18339.25                | 34545.53                    | 53850.00                     |
| 8)      | STD BOOTH                          | 38902.89                | 0.00                  | 0.00             | 38902.89          | 5%   | 1945.14                   | 36957.75                | 56525.12                    | 95428.01                     |
| 9)      | TOILET BLOCK CONSTRUCTION          | 123856.35               | 0.00                  | 0.00             | 123856.35         | 5%   | 6192.82                   | 117663.53               | 165244.66                   | 289101.01                    |
| 10)     | BORE WELL & WATER SUPPLY SCHEME    | 1949168.14              | 0.00                  | 0.00             | 1949168.14        | 10%  | 194916.81                 | 1754251.33              | 2139262.95                  | 4088431.09                   |
| 11)     | BASKET BALL                        | 81857.36                | 0.00                  | 0.00             | 81857.36          | 10%  | 8185.74                   | 73671.62                | 336643.64                   | 418501.00                    |
| 12)     | GENERATOR SHED CONSTRUCTION        | 51060.54                | 15000.00              | 0.00             | 66060.54          | 5%   | 3303.03                   | 62757.51                | 53641.47                    | 119702.01                    |
| 13)     | NEW-PIPE LINE                      | 110829.38               | 0.00                  | 0.00             | 110829.38         | 10%  | 11082.94                  | 99746.44                | 303185.64                   | 414015.02                    |
| 14)     | SEMINAR HALL DEVELOPMENT           | 364136.39               | 0.00                  | 0.00             | 364136.39         | 10%  | 36413.64                  | 327722.75               | 645307.62                   | 1009444.01                   |
| 15)     | WINDOW REPLACEMENT                 | 1677587.26              | 30633.00              | 0.00             | 1708220.26        | 10%  | 170822.03                 | 1537398.23              | 1234072.61                  | 2942292.87                   |
| 16)     | FOUNTAIN CONSTRUCTION              | 684987.17               | 0.00                  | 0.00             | 684987.17         | 5%   | 34249.36                  | 650737.81               | 361776.85                   | 1046764.02                   |
| 17)     | SODA SHOP                          | 16992.99                | 0.00                  | 0.00             | 16992.99          | 10%  | 1699.30                   | 15293.69                | 8907.01                     | 25900.00                     |
| 18)     | R.O.SHED & R.O.SYSTEM              | 131002.32               | 0.00                  | 0.00             | 131002.32         | 10%  | 13100.23                  | 117902.09               | 63070.68                    | 194073.00                    |
| 19)     | COLLEGE NAME ( Neon Light System)  | 259301.21               | 0.00                  | 0.00             | 259301.21         | 10%  | 25930.12                  | 233371.09               | 136954.79                   | 396256.00                    |
| 20)     | Parking Shed                       | 837203.18               | 0.00                  | 0.00             | 837203.18         | 10%  | 83720.32                  | 753482.86               | 141981.83                   | 979185.01                    |
| 21)     | M.B.A. Seminar Hall                | 230125.15               | 1690637.00            | 0.00             | 1920762.15        | 10%  | 192076.22                 | 1728685.94              | 12111.85                    | 1932874.00                   |
| 22)     | Mechanical & I.T.Column Decoration | 0.00                    | 212045.00             | 118500.00        | 330545.00         | 10%  | 27129.50                  | 303415.50               | 0.00                        | 330545.00                    |
|         | <b>TOTAL OF SCHEDULE (A)</b>       | <b>6947952.84</b>       | <b>1948315.00</b>     | <b>118500.00</b> | <b>9014767.84</b> |      | <b>833816.04</b>          | <b>8180951.80</b>       | <b>6834917.65</b>           | <b>15849685.55</b>           |





RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2019

SCH NO.25 : AUDIT NOTES AND REMARKS FORMING PART OF AUDIT REPORT

- 1) The accounts have been prepared under the historical cost convention and as per normally accepted accounting principles. The accounts are maintained on computer system and the hard prints of the Cash book and Ledger have been produced before us.
- 2) The Affiliation fees, AICTE fees paid, Magazine Contribution, Telephone bill, Electric bill, Vehicle Insurance, etc. are accounted on cash basis. The details of major Prior period and prepaid expenses are attached herewith (List No.24). It is informed by the Principal that this is the usual practice followed by the College and it has not have any material impact.
- 3) It is informed by the Principal that in previous years the College given the Donations of Rs 6 Lakh to Shrama Sadhana Trust, Jalgaon. Through oversight the said amount shown as receivable. Now the said amount transferred to expenditure. It is informed by the Principal that there are some old receivables and payables like Students Fees receivable, Other Payables, Other Salary payment payable, etc. and the said balances are continued from last 5-6 years. As per present situation these amounts are not payable or receivables. Therefore, the said amounts written off and transferred to "Remission A/c". The Net credit effect of the Remission A/c of Rs 1,07,04,360/- credited to Income and Expenditure A/c.
- 4) There is a system in the College to give advances to staff for the expenses to be incurred. It is necessary to recover these old advances and also the amount receivable from the Ex-Cashier V. L. Patil, Shri. Jadhav, against whom the cases were filed, as early as possible.
- 5) Depreciation on the assets has been charged on reducing balance method. The depreciation on the Movable assets is debited to Income and Expenditure A/c and credited to each Asset A/c and the value of movable assets are shown at W.D.V. on 31.3.2019. However, the depreciation on the Immovable Assets has been credited to Depreciation Fund A/c and the said assets are shown at cost price.
- 6) During the year under consideration an amount of Rs 2,41,83,953/- have been debited to Building Rent credited to Shrama Sadhana Bombay Trust, Jalgaon branch.
- 7) It is necessary to pay the provisions for expenses payable as early as possible. The balances of Expenses payables, Banks, Fixed Deposits and interest thereon, balances of other current liabilities and current assets are subject to confirmation in the absence of necessary evidence.





R. N. Khairnar  
M. Com., D.B.M., F.C.A.

R. N. Khairnar & Co.,  
CHARTERED ACCOUNTANTS,  
"OM", 267, BALIRAM PETH,  
OPP. NAIK CYCLE MART,  
JALGAON 425 001

Tel - (0257) 2220890 Fax 0257- 2232374

RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2019

- 2 -

8) During the year under consideration Coloring, Lab Expenses, Art work and Repair expenses, as given in List No. 4 have been undertaken by the College of Engineering & Technology Section. The college authorities have taken a stand and explained to us that having regard to the area of the College and investments in the assets, the expenditure incurred is of revenue nature, though the quantum of expenditure is very high; therefore, the same has been debited to Income and Expenditure Account.

9) We have conducted audit in accordance with the auditing standards generally accepted in India. Those Standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material mis-statement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

PLACE : JALGAON.

DATED : 12th Oct., 2019

FOR: R. N. KHAIRNAR & CO.,  
CHARTERED ACCOUNTANTS



(R.N.KHAIRNAR)  
PROPRIETOR  
M. NO.48440



**RE: SHRAMA SADHANA BOMBAY TRUST, MUMBAI'S  
COLLEGE OF ENGINEERING & TECHNOLOGY, BAMBHORI, JALGAON  
31ST MARCH, 2019**

**NOTES ON ACCOUNTS AND DISCLOSURE OF ACCOUNTING POLICIES**

1) The accounts have been prepared under the historical cost convention and as per normally accepted accounting principle. However as per usual practice the AICTE and affiliation fees accounted on Cash basis.

2) Method of Accounting : The College has followed Mercantile system of accounting.

3) Depreciation:

The depreciation has been charged at the rate prescribed under Income-tax Act, 1961 on the WDV on 1.4.2018, after considering addition / deletion to the asset during the year. The depreciation on the granted assets debited to respective Capital Grant Account.

4) Fixed Assets : The Immovable assets are shown at the Original Cost and rest of the movable assets are shown at W.D.V. on 31-03-2019.

5) Contingencies and Event occurring after the balance sheet date: No such event.

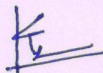
6) Prior period items: Generally no prior period expenses debited, except usual system followed by the College.

7) Investments: Investments in fixed deposits are shown at cost plus accrued interest upto 31-03-2019.

8) There is no extra ordinary items debited to Income and Expenditure A/c, which has material effect on the results during the year.

9) As per the regular practice the Board of Trustees, the College Rent of Rs. 2,41,83,953/- has been given to Shrama Sadhana Bombay Trust, Jalgaon Branch.

FOR : COLLEGE OF ENGG. & TECHNOLOGY,



(PRINCIPAL)

(TRUSTEE)

### **MOODLE as Learning Management System**

In accordance with trends in e-Learning, the institute has setup Modular Object Oriented Dynamic Learning Environment (MOODLE) as Learning Management System (LMS). LMS helps the faculty members deliver learning materials online to the students. It facilitates the students for self-learning and as well for slow learners.

### **Digital Library**

In order to make information more available, the institute has setup Digital Library as digital repository of project reports and research publications. The Digital Library opens new learning opportunities for the students and staff in their area of interest, irrespective of their branch or discipline.

### **Shram Sadhana Research Promotion Scheme (SSRPS)**

To promote research, the institute has started Shram Sadhana Research Promotion Scheme (SSRPS) through which funds are provided to the faculty members for their innovative research projects. Under the scheme, the institute provides all sorts of facilities and support including motivation to the researchers for smooth progress and implementation of research projects.

### **Shram Sadhana Scholarship Scheme (SSSS)**

Though the institute is self-financed, it offers fee relaxation and scholarship to students under the scheme Shram Sadhana Scholarship Scheme. The scheme empowers the students coming from socio-economically weaker sections of the society.

### **Shram Sadhana Innovation and Entrepreneurship Development Center (SSIEDC)**

To facilitate entrepreneurship qualities and research culture among the students, the institute has setup Shram Sadhana Innovation and Entrepreneurship Development Center (SSIEDC). Under SSIEDC the institute provides financial assistance to five innovative students' projects every year. The institute organizes Entrepreneurship Awareness Camps under SSIEDC for students. The objective of the same is to create awareness among students about various facets of entrepreneurship as an alternative career option.

### **Add-on Courses**

To bridge the curriculum gap as per the requirement of industry, add-on courses are organized for the students in every semester. These value-added courses which supplement the primary course that students pursue are based on job-oriented, skill development etc.



# All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: [www.aicte-india.org](http://www.aicte-india.org)



## APPROVAL PROCESS 2019-20

### Extension of Approval (EoA)

F.No. Western/1-4266711440/2019/EOA

Date: 10-Apr-2019

To,

The Secretary,  
Tech. & Higher Education Deptt.  
Govt. of Maharashtra, Mantralaya,  
Annexe Building, Mumbai-400032

#### Sub: Extension of Approval for the Academic Year 2019-20

Ref: Application of the Institution for Extension of approval for the Academic Year 2019-20

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2018 notified by the Council vide notification number F.No.AB/AICTE/REG/2018 dated 31/12/2018 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

|                              |  |                                  |   |
|------------------------------|--|----------------------------------|---|
| <b>Permanent Id</b>          | 1-8773881  | <b>Application Id</b>            | 1-4266711440  |
| <b>Name of the Institute</b> | SSBT'S COLLEGE OF ENGINEERING & TECHNOLOGY   | <b>Name of the Society/Trust</b> | SHRAM SADHANA BOMBAY TRUST  |
| <b>Institute Address</b>     | POST BOX NO. 94<br>N.H. 6, BAMBHORI, JALGAON 425 001<br>MAHARASHTRA STATE, JALGAON, JALGAON, Maharashtra, 425001 | <b>Society/Trust Address</b>     | HOSTEL WORKING WOMEN OPP. CORDINAL CRACIOUS HIGH SCHOOL SUBHASH NAGAR BANDRA(E), MUMBAI, MUMBAI CITY, Maharashtra, 400051 |
| <b>Institute Type</b>        | Unaided - Private  | <b>Region</b>                    | Western   |

|  |    |   |    |
|--|----|---|----|
| <b>Opted for Change from Women to Co-Ed and vice versa</b>       | No | <b>Change from Women to Co-Ed and vice versa Approved or Not</b>      | NA |
| <b>Opted for Change of Name</b>                                  | No | <b>Change of Name Approved or Not</b>                                 | NA |
| <b>Opted for Change of Site/Location</b>                         | No | <b>Change of Site/Location Approved or Not</b>                        | NA |
| <b>Opted for Conversion from Degree to Diploma or vice versa</b> | No | <b>Conversion for Degree to Diploma or vice versa Approved or Not</b> | NA |
| <b>Opted for Organization Name Change</b>                        | No | <b>Change of Organization Name Approved or Not</b>                    | NA |
| <b>Opted for Merger of Institution</b>                           | No | <b>Merger of Institution Approved or Not</b>                          | NA |
| <b>Opted for Introduction of New Program/Level</b>               | No | <b>Introduction of Program/Level Approved or Not</b>                  | NA |

#### To conduct following Courses with the Intake indicated below for the Academic Year 2019-20

| Program                    | Shift | Level          | Course               | FT/PT+ | Affiliating Body (Univ/Body)          | Intake Approved for 2019-20 | NRI Approval Status | PIO / FN / Gulf quota/ OCI/ Approval Status |
|----------------------------|-------|----------------|----------------------|--------|---------------------------------------|-----------------------------|---------------------|---|
| Engineering And Technology | 1st   | Under Graduate | Chemical Engineering | FT     | North Maharashtra University, Jalgaon | 30                          | NA                  | NA  |
| Engineering And Technology | 1st   | Under Graduate | Civil Engineering    | FT     | North Maharashtra University, Jalgaon | 120                         | NA                  | NA  |
| Engineering And Technology | 1st   | Under Graduate | Computer Engineering | FT     | North Maharashtra University, Jalgaon | 120                         | NA                  | NA  |

|                            |     |                |  |    |                                       |     |    |    |
|----------------------------|-----|----------------|--|----|---------------------------------------|-----|----|----|
| Engineering And Technology | 1st | Under Graduate | Electronics And Telecommunications Engineering | FT | North Maharashtra University, Jalgaon | 60  | NA | NA |
| Engineering And Technology | 1st | Under Graduate | Electrical Engineering                         | FT | North Maharashtra University, Jalgaon | 60  | NA | NA |
| Engineering And Technology | 1st | Under Graduate | Information Technology                         | FT | North Maharashtra University, Jalgaon | 60  | NA | NA |
| Engineering And Technology | 1st | Under Graduate | Mechanical Engineering                         | FT | North Maharashtra University, Jalgaon | 120 | NA | NA |
| Engineering And Technology | 1st | Post Graduate  | Computer Science And Engineering               | FT | North Maharashtra University, Jalgaon | 18  | NA | NA |
| Engineering And Technology | 1st | Under Graduate | Biotechnology                                  | FT | North Maharashtra University, Jalgaon | 30  | NA | NA |
| Management                 | 1st | Post Graduate  | Masters In Business Administration             | FT | North Maharashtra University, Jalgaon | 60  | NA | NA |
| Engineering And Technology | 1st | Post Graduate  | Electrical Power Systems                       | FT | North Maharashtra University, Jalgaon | 18  | NA | NA |

+FT –Full Time,PT-Part Time

| Deficiencies Noted based on Self Disclosure |            |
|---|------------|
| Particulars                                 | Deficiency |
| Faculty Deficiency                          | Yes        |
| *Please refer Deficiency Report for details |            |

**SSBT'S COLLEGE OF ENGINEERING & TECHNOLOGY** is hereby informed to submit the compliance of the deficiencies mentioned above to the Regional Office within a period of **6 months** from the date of issuance of this letter failing which the council shall initiate strict action as defined in Approval Process Handbook 2019-20 during the subsequent Academic Year.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation: - Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

**It is mandatory to comply all the essential requirements as given in APH 2019-20(appendix 6)**

**NOTE: If the State Government / UT / DTE / DME has a reservation policy for admission in Technical Education Institutes and the same is applicable to Private & Self-financing Technical Institutions, then the State Government / UT/ DTE / DME shall ensure that 10 % of Reservation for EWS would be operational from the Academic year 2019-20 without affecting the percentage reservations of SC/ST/OBC/General . However, this would not be applicable in the case of Minority Institutions referred to the clause (1) of Article 30 of Constitution of India.**

**Prof. A.P Mittal**  
Member Secretary, AICTE

Copy to:

- The Director Of Technical Education\*\*, Maharashtra**
- The Registrar\*\*,  
North Maharashtra University, Jalgaon**
- The Principal / Director,  
Ssbts College Of Engineering & Technology**

Post Box No. 94  
N.H. 6, Bambhori, Jalgaon 425 001  
Maharashtra State,  
Jalgaon, Jalgaon,  
Maharashtra, 425001

4. **The Secretary / Chairman,**  
Shram Sadhana Bombay Trust  
Hostel Working Women Opp. Cordinal Cracious High School Subhash Nagar Bandra(E).  
Mumbai, Mumbai City,  
Maharashtra, 400051
5. **The Regional Officer,**  
All India Council for Technical Education  
Industrial Assurance Building  
2nd Floor, Nariman Road  
Mumbai - 400 020, Maharashtra
6. **Guard File(AICTE)**

Note: Validity of the Course details may be verified at <http://www.aicte-india.org/>

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\*\* Individual Approval letter copy will not be communicated through Post/Email. However, consolidated list of Approved Institutions(bulk) will be shared through official Email Address to the concerned Authorities mentioned above.