PG OPEN ELECTIVES				
Internal External Total				
40	60	100		

List of PG Open Electives offered in Main Campus and GZSCCET for Session July-Dec 2025.

PG OPEN ELECTIVES				
Name of the Department COURSE CODE				
Physics	Physics of Materials	MPHY0-F91		
Mathematics	Statistical Methods	MMAT0-F91		
Mechanical Engineering	Industrial Safety & Environment	MMEE0-F91		
	Supply Chain Management	MMEE0-F92		
	Advanced Power Plant Engineering	MMEE0-F93		
	Industrial Automation & Robotics	MMEE0-F94		
Computational Sciences	Computer Application in Business	MCAP0-F91		
University of Business School	Principles & Practices of Management	MBAD0-F91		
	Total Quality Management	MBAD0-F92		
	Human Resource Management	MBAD0-F93		
	Marketing Management	MBAD0-F94		
	Project Management	MBAD0-F95		
	Accounting & Financial Management	MBAD0-F96		
	Business Ethics	MBAD0-F97		
and all	Engineering economics & industrial management	MBAD0-F98		
Basic Accounting MBAD0-F99				

PHYSICS OF MATERIALSSubject Code: MPHY0-F91L T P CDuration: 48 Hrs.30033003

UNIT-1 (12 Hrs.)

Polymer Materials Polymer Structure: Molecular Weight, Shape, Structure and Configuration; Thermoplastic and Thermosetting, Mechanical Behavior of Polymers-stress strain behavior, Macroscopic and Viscoelastic deformation, Fracture of polymers, Mechanical Characteristics-Fatigue, Tear Strength and Hardness, Mechanisms of Deformation and strengthening of polymers. Crystallization, Melting and Glass Transition Phenomena in Polymers.

UNIT-II (12 Hrs.)

Composite Materials Introduction, Particle-Reinforced Composites-Large, Fiber-Reinforced Composites: Influence of Fiber Length, Influence of Fiber Orientation and Concentration, The Fiber Phase, The Matrix Phase, Polymer-Matrix Composites, Metal-Matrix Composites, Ceramic-Matrix Composites.

UNIT-III (11 Hrs.)

Nano-Materials Emergence of Nanotechnology, Micro to Nanoscale materials, Characteristics of NanomaterialsBand gap, surface to volume ratio, Electron confinement for zero, one and two dimensional nanostructures, synthesis of nanomaterials with top down and bottom up approach, Methods of Synthesis- ball milling, sol-gel, Electro-spinning and Lithography techniques, Carbon nanotubes (synthesis and properties), applications of nanomaterials.

UNIT-IV (13 Hrs.)

Electrical, Magnetic and Thermal Properties of Materials Electrical properties of materials: Conduction in ionic materials, Dielectric behavior, Field vectors and polarization types, Frequency dependent dielectric constant, Other Electrical characteristics of materials and its applications: Ferroelectricity, Piezoelectricity. Magnetic Properties of Materials: Magnetic materials and its classifications, Domain and Magnetic Hysteresis, Magnetic storage, Magnetic Anisotropy, Soft and Hard magnetic materials. Thermal properties of materials: Heat capacity, Thermal expansion, Thermal conductivity and Thermal stresses.

- 1. William D. Callister, 'Materials Science and Engineering: An Introduction', 4th Edn., John Wiley & Sons, Inc.
- 2. G.M. Chow & K.E. Gonsalves, 'Nanotechnology Molecularly Designed Materials', 2nd Edn, American Chemical Society
- 3. K.P Jain, 'Physics of Semiconductor Nanostructures', Narosa Publishing House, 1997.
- 4. G. Cao, 'Nanostructures and Nanomaterials: Synthesis, Properties and Applications', Imperial College Press, 2004.

	STATISTICAL METHODS	
Subject Code: MMAT0-F91	LTPC	Duration: 36 Hrs.
	3003	

UNIT-I (12 Hrs.)

Statistics: Introduction, Importance and Scope of Statistics, Mean, Median, Mode, Mean Deviation and Standard Deviation. Correlation and Regression: Correlation: Introduction, Types of Correlation, Measurement of Correlation: Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation Regression: Introduction, Utility, Method of Least Squares, Coefficient of Regression, Coefficient of Determination.

UNIT -II (12 Hrs.)

Random Variables: Definition, Probability distribution, Distribution functions, probability distribution function (pdf) and cumulative distribution function (cdf), Expectation and Variance.

UNIT -III (7 Hrs.)

Theory of Probability: Additive and multiplicative law of probability, conditional probability and Bayes theorem. Probability distributions: Binomial, Poisson, Normal Distribution

UNIT -IV (5 Hrs.)

Sampling Distribution: Concept of sampling distribution and its standard error, Tests of significance: Tests based on Normal Distribution, Chi-square, t and F statistic.

- 1. H. Morris, DeGroot and J. Mark Schervish, 'Probability and Statistics', Pearson Education; 4th Edn.
- 2. Vijay K. Rohatgi, A.K. Md. Ehsanes Saleh, 'An Introduction to Probability and Statistics', 2nd Edn., Wiley,
- 3. Jay L. Devore, 'Probability and Statistics for Engineering and the Sciences', Cengage', 8th Edn'.
- 4. S.C. Kapoor, V.K. Gupta, 'Fundamentals of Mathematical Statistics', 11th Edn., S. Chand,

INDUSTRIAL SAFETY AND ENVIROMENT

Subject Code: MMEE0-F91

L T P C 3 0 0 3 Contact Hrs.: 45

Course Objectives:

- 1. To realize the need of safety in industry.
- 2. To learn the safety planning and standards for safety.
- 3. To understand effect of environment changes on the safety.
- 4. To understand the concept of ventilation, heat and lightning for safety.

UNIT-I (10 Hrs.)

Meaning & Need for Safety: Relationship of safety with plant design, equipment design and work environment. Industrial accidents, their nature, types and causes. Assessment of accident costs; prevention of accidents. Industrial hazards, Hazard identification techniques, Accident investigation, reporting and analysis.

UNIT-II (10 Hrs.)

Planning for Safety & its Measures: Definition, purpose, nature, scope and procedure. Range of planning, variety of plans. Policy formulation and implementation of safety policies. Safety measures in a manufacturing organization, safety and economics, safety and productivity. Employees participation in safety. Safety standards and legislation.

UNIT-III (10 Hrs.)

Meaning of Environment and Need for Environmental Control: Environmental factors in industry. Effect of temperature, Illumination, humidity noise and vibrations on human body and mind. Measurement and mitigation of physical and mental "fatigue" Basics of environment design for improved efficiency and accuracy at work. Environment Standards: Introduction to ISO 14000; Environment standards for representative industries.

UNIT-IV (15 Hrs.)

Ventilation and Heat Control Purpose of ventilation, Lighting, Noise & Vibrations: Physiology of heat regulation. Thermal environment and its measurement. Thermal comfort. Indices of heat stress. Thermal limits for comfort, efficiency and freedom from health risk. Natural ventilation. Mechanical ventilation. Air conditioning Process ventilation. Control of heat exposures: control at source, insulation, and local exhaust ventilation. Control of radiant heat, dilution ventilation. Local relief. Industrial Lighting: Purpose of lighting, benefits of good illumination. Phenomenon of lighting and safety. Lighting and the work. Sources and types of artificial lighting. Principles of good illumination. Recommended optimum standards of illumination. Design of lighting installation. Maintenance standards relating to lighting and colour. Noise & Vibrations, Continuous and impulse

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noise. The effect of noise on man. Noise measurement and evaluation of noise. Noise absorption techniques.

Course Outcomes: Upon completion of the course, the student will be able to:

- 1. Understand importance of safety at work.
- 2. Understand various safety measures and importance of standards for safety.
- 3. Understand basics of environmental design.
- 4. Understand the control of Ventilation and heat etc.

Reference Books:

- 1. H.W. Heinrich, 'Industrial Accident Prevention', McGraw Hill.
- 2. Beranek, 'Noise Reduction', McGraw Hill.
- 3. D.C. Reamer, 'Modern Safety and Health Technology', R. Wiley.

	SUPPLY CHAIN MANAGEMENT	
Subject Code: MMEE0-F92	L T P C 3 0 0 3	Contact Hrs: 42

Unit-I (10 Hrs.)

Understanding the Supply Chain: Process view, Decision phases and importance of supply chain, Supply chain management and logistics, supply chain and the value chain, Competitive advantage, supply chain and competitive performance, changing competitive environment, Supply Chain drivers and obstacle.

Unit-II (12 Hrs.)

Matching supply and demand: The lead-time gap, Improving the visibility of demand, supply chain fulcrum, forecast for capacity, execute against demand, Demand management and aggregate planning, Collaborative planning, forecasting and replenishment. Creating the Responsive Supply Chain: Product 'push' versus demand 'pull' The Japanese philosophy, Foundations of agility, Route map to responsiveness.

Strategic Lead-time Management: Time-based competition, Lead-time concepts, Logistics pipeline management.

Unit-III (10 Hrs.)

Planning and Managing Inventories in a Supply Chain: managing economies of scale in supply chain cycle inventory, managing uncertainty in supply chain, determining optimal level of product availability. Transportation, Network Design and Information Technology in a Supply Chain: transportation, facility design network design in a supply chain, extended enterprise and the virtual supply chain, role of information and information technology in the supply chain, Laying the foundations for synchronization, 'Quick response' logistics, Production strategies for quick response, Logistics systems dynamics.

Unit-IV (10 Hrs.)

Managing **Risk** in the Supply Chain: Vulnerability in supply chains, Understanding the supply chain risk profile, managing supply chain risk, Achieving supply chain resilience. Overcoming the Barriers to Supply Chain Integration: Creating the logistics vision, Problems with conventional organizations, developing the logistics organization, Logistics as the vehicle for change, Benchmarking.

- 1. S. Chopra, and P. Meindl, 'Supply Chain Management', Prentice Hall, 2010.
- 2. M. Christopher, 'Logistics & Supply Chain Management', FT Prentice Hall, 2011.
- 3. John T. Mentzer, J. T., 'Supply Chain Management', Illustrated Edn., SAGE Publications, 2001.
- 4. Michael Hugos, M.H., 'Essentials of Supply Chain Management', John Wiley, 2011.
- 5. D. Simchi-Levi, P. Kaminsky, E. Simchi-Levi, 'Designing and Managing the Supply Chain', McGraw Hill Higher Education, 2011.

ADVANCED POWER PLANT ENGINEERING

Subject Code: MMEE0-F93

LTPC 3003

Contact Hrs: 42

Unit-I (10 Hrs.)

Introduction: Energy sources for generation of electric power, types of power plant-their special features and applications, present status and future trends of energy resources, overview of utility systems, project implementation stages, load curves, tariff methods.

Unit-II (12 Hrs.)

Conventional Power Generation: site selection, plant layout, steam generators, turbines, fossil and nuclear fuels, pulverizers and coal feeding, mill reject, combustion in furnace, coal handling, ash handling, electrostatic precipitators and bag filters, water systems, condensers, cooling towers, safety aspects, waste disposals, cogeneration, hydroelectric power generation, turbine specific speeds.

Unit-III (10 Hrs.)

Non-Conventional Power Generation: Fluidized bed combustion, energy generation through wind, geothermal, tidal and solar energy, nuclear energy.

Unit-IV (10 Hrs.)

Process Utility Systems: Bulk solids storage and transport systems – silo/hoppers, conveyors, selection and process and instrumentation diagram for pumps, fans and compressors, piping system design, pipe supports, different valves, fittings, instrumentation and data logging systems, industrial fire protection systems, dust hazards.

Recommended Books

1. P.K. Nag, 'Power Plant Engineering', McGrawHill, 2007.

2. A.K. Raja, A.P. Srivastava & M. Dwivedi, 'Power Plant Engineering', New Age Int., 2006.

3. C. Elanchezhian, L. Saravankumar, B.V. Ramnath, 'Power Plant Engineering', I-K Int., 2007.

4. T.C. Elliot, K. Chen, R. Swanekamp, 'Stanadard Handbook of Power Plant Engineering', McGraw Hill Education, 1998

INDUSTR	IAL AUTOMATION & ROBO	DTICS
Subject Code: MMEE0-F94	LTPC	Contact Hrs: 36
	3 0 0 3	

Course Objective

- 1. To understand the role of automation in modern industry.
- 2. To study Fluid power control elements, automation in material handling systems.
- 3. To study robotic anatomy and control of robotic manipulators.

Unit-I

Introduction

Concept, scope and challenges in automation, social- economic aspect of automation, types of production systems, Levels of automation, Industry 4.0 concept, Artificial Intelligence (AI).

Unit-II

03 Hrs.

04 Hrs.

Fluid Power

Classification, Functions and graphical representation of fluid control elements, Fluid properties, Classification and working of Fluid power generators (Hydraulic and pneumatic), working and applications of Hydraulic and pneumatic Valves. 10 Hrs.

Unit-III

Basic hydraulic and pneumatic circuits:

Logic circuit design for a given time displacement diagram & sequence of operations, Hydraulic & Pneumatic Circuits such as Time Delay Valve & Quick Exhaust Valve, Memory Circuit & Speed Control of a Cylinder, Troubleshooting (Causes, Effects and diagnosis), Designation of specific Elements in a Circuit.

Fluidics:

Boolean algebra, Truth Tables, Logic Gates, Coanda effect.

Discrete control Using Programmable Logic Controllers

Basics of Programmable logic controllers (PLC), Architecture & Components of PLC, Ladder Logic Diagrams 04 Hrs.

Unit-IV

Material handling Devices:

Overview and Automation in material handling systems, principles of material handling,
Classification, Constructional details and Applications of Transfer devices and feeders. Automated
Guided Vehicle Systems. Introduction to automated assembly systems.05 Hrs.Robot anatomy, Classification, Robot Specifications, End effectors, Robot Performance Parameters,05 Hrs.

Robotic Programming, Machine Vision, Teach pendants, Industrial Applications of Robots.

Recommended Books

1. Anthony Esposito, Fluid Power with applications, Pearson

- 2. S. R Majumdar, Pneumatic Control, McGraw Hill
- 3. S. R Deb, Robotic Technology and Flexible Automation, Tata Mc Hill
- 4. Groover Mikell P. Automation, Production Systems, and Computer Integrated Manufacturing



COMPUTER APPLICATION IN BUSINESS			
Subject Code: MCAP0-F91	LTPC	Contact Hrs: 40	
	3 0 0 3		

Course Objectives:

The objective of this Course is to provide an insight into basic features of computer systems and their applications in Managerial Decision Making. It also provides technical framework to students for understanding the emerging world of e-Business.

UNIT-I (10 Hrs.)

Introduction to Computers: Types of Computers, Storage Devices and Memories, Input/Output devices. Introduction to Software, Types of software – Software: its nature and qualities. Operating System: Types of Operating System, WINDOWS XP: Basic Operations, utilities and features.

UNIT-II (10 Hrs.)

MS Applications: MS Word – Basics, formatting text and documents, Mail Merge, Macros MS Excel – Introduction, Creating a List, Graphs and Charts, Sorting, Filtering Data, Goal seek, Pivot tables, Freezing Panes, What-if Analysis, Splitting Windows, Basic Formulae in Excel. MS PowerPoint – Basics, Creating effective presentation, Animations and Templates. MS Access – Designing of Forms, Report generation using wizard.

UNIT-III (10 Hrs.)

Internet and E-Business: Introduction to internet and its applications, Intranet and Extranet, World Wide Web, Internet, Architectures, Internet Applications. E – business - E-Business framework, Infrastructure for E-Business, E - Shopping, Electronic Data Interchange, Components of Electronic Data Interchange, Creating Web Pages using HTML, Electronic Payment System.

UNIT-IV (10 Hrs.)

Computer Networks and Security: Overview of a Network, Types of Network, Network Topologies, Firewall, Encryption v/s Decryption, Cryptography, Public Key and Private Key, Digital Signatures. COURSE Outcomes: Students will able to understand the concepts of computer and various software related to it. The use of MS Office (Excel, Access & Power point) helps in different type of analysis and projection of reports related to the business management. The software helps in planning & coordinating the supply chain of the company.

Recommended Books:

1. Rainer and Potter, 'Introduction to Information Technology', John Wiley and Sons.

- 2. Roger Jennings, 'Microsoft Access 2010', Pearson Education.
- 3. Forouzan, 'Basics of Computer Science', Cengage COURSE.
- 4. Joseph Brady & Ellen F Monk, 'Problem Solving Cases in Microsoft, Excel Thomson COURSE'.
- 5. K. Saini & Pradeep Kumar, 'Computer Applications in Management', Anmol Publications.
- 6. Deepak Bharihoke, 'Fundamentals of Information Technology', Excel Books

PRINCIPLES AND PRACTICES OF MANAGEMENT

Subject Code: MBAD0-F91

L T P C 3003

Duration: 45 Hrs.

Course Objectives: This Course aims to provide a thorough and systematic coverage of management theory and practice. The Course aims at providing fundamental knowledge and exposure of the concepts, theories and practices in the field of management. It focuses on the basic roles, skills and functions of management, with special attention to managerial responsibility for effective and efficient achievement of goals.

UNIT-I (11Hrs.)

Introduction to Management: Definition, Nature, Significance and Scope. Functions of Manager, An Overview of Management Functions. Is managing a science or art? Evolution of Management Thought: Classical Approach, Scientific Management, General Administrative Theory, Quantitative Approach, Behavioral Approach, System approach and Contingency approach.

UNIT-II (12Hrs.)

Planning and Decision Making: Types of Plans and Process of Planning, Nature of Objectives, Setting Objectives. Importance and Steps in Decision Making, Types of Decision and Decision Making Under Different Conditions. Group Decision Making. Decision Making Styles Organizing: Nature and Significance, Process of Organizing, Bases of Departmentation, Delegation and Decentralization, Line & Staff relationship

Delegation: Concept and Elements. Authority, Responsibility, Accountability

UNIT-III (12Hrs.)

Coordination: Concept and Importance, Factors which Make Coordination Difficult, Techniques or Methods to Ensure Effective Coordination.

Control: Concept, Planning-Control Relationship, Process of Control, Traditional & Modern Techniques of Control

UNIT-IV (10 Hrs.)

Management by Objectives: Concept, Benefits and Weaknesses, Comparative Study of Indian, Japanese and American Management Culture

Current Trends in Management Practices: Workforce Diversity, e-Business

Course Outcomes: After completing the Course student will be able to understand and explain the concept of management and its managerial perspective. It will equip students to map complex managerial aspect arise due to ground realities of an organization. They will Gain knowledge of contemporary issues in Management principles and various approaches to resolve those issues.

- 1. Heinz Weihrich, Cannice & Koontz, 'Management (A Global Perspective)', Tata McGraw Hill.
- 2. Harold Koontz, and Heinz Weihrich, 'Essentials of Management: An international Perspective', <u>Tata McGraw Hill.</u>
- 3. Stephen Robbins & Mary coulter, 'Management', <u>Pearson Education</u>
- 4. VSP Rao & VH Krishna, 'Managemen't', Excel Books
- 5. P. Subba Rao, 'Principles of Management', Himalaya Publishing

TOTAL QUALITY MANAGEMENT

Subject Code: MBAD0-F92

LTPC

Duration: 45 Hrs.

3003

Course objectives: Understand the principles and benefits of Total Quality Management (TQM) for excellence in manufacturing and services. Learn the Just-in-Time (JIT) system and its role in waste elimination and customer satisfaction. Explore process management and employee involvement strategies to enhance organizational quality. Master problem-solving techniques, benchmarking, and advanced TQM tools for continuous improvement.

UNIT-I (10 Hrs.)

Quality and Total Quality Management: Excellence in manufacturing/service, factors of excellence, relevance of TQM. Concept and definition of quality: Total quality control (TQC) and Total Quality Management (TQM), salient features of TQC and TQM. Total Quality Management Models, benefits of TQM

UNIT-II (12 Hrs.)

Just-in-time (JIT): Definition: Elements, benefits, equipment layout for JIT system, Kanban system MRP (Material Requirement planning) vs JIT system, Waste elimination, workers involvement through JIT: JIT cause and effect chain, JIT implementation.

Customer: Satisfaction, data collection and complaint, Redressal mechanism.

UNIT-III (12 Hrs.)

Planning Process: Policy development and implementation; plan formulation and implementation.

Process Management: Factors affecting process management, Quality function development (QFD), and quality assurance system.

Total Employees Involvement (**TEI**): Empowering employees: team building; quality circles; reward and Recognition; education and training, Suggestion schemes.

UNIT-IV (11 Hrs.)

Problems solving: Defining problem, Problem identification and solving process, QC tools.

Benchmarking: Definition, concept, process and types of benchmarking **Quality Systems:** Concept of quality system standards: relevance and origin of ISO 9000; Benefits; Elements of ISO 9001, ISO 9002, ISO 9003.

Advanced techniques of TQM: Design of experiments: failure mode effect analysis: Taguchi methods.

Recommended Books

1. Sunder Raju, 'Total Quality Management', Tata McGraw Hill.

2. M. Zairi, 'TQM for Engineers', Aditya Books.

3. J.L. Hradeskym, 'Total Quality Management Handbook', McGraw Hill.

4. Dalela and Saurabh, ISO 9000 quality System, Standard Publishers.

HUMAN RESOURCE MANAGEMENT

Subject Code: MBAD0-F93

L T P C 3 0 0 3 **Duration: 45 Hrs.**

COURSE Objectives: The objective of the paper is to make student aware of the various functions and importance of the HR department in any organization. It is basically concerned with managing the human resources, whereby the underlying objective is to attract retain and motivate the human resources in any organization, which is the most challenging and daunting look for any organization today.

UNIT-I (12 Hrs.)

Human Resources Management: Meaning, Scope, Objective, Functions, Roles and Importance. interaction with other functional areas. HRM & HRD a comparative analysis. Human Resource Planning: Meaning, Process & Methods of Human Resources Planning, Importance of HRIS. Job Analysis, Job Description, Job Specification. Concept of Job Evaluation

UNIT-II (10 Hrs.)

Recruitment & Selection: Concept, Process & Methods. Concept of Induction & Placement. Training & Development: Concept & Methods, Difference Between Training & Development, Internal Mobility: Promotion, Transfer, Demotion, Separation.

UNIT-III (12 Hrs.)

Performance Appraisal: Concept, methods & Process. Compensation Management- Wage & Salary Administration, Elements & Methods of Wage & Salary, Incentive Plans & Fringe Benefits, Quality of work life (QWL): Meaning, Development and Various Approaches of QWL, Techniques for improving QWL.

UNIT IV (11 Hrs.)

Industrial Relations: Meaning and importance. Collective Bargaining, Participative Management, Employee Grievances and their Resolution, Quality Circles, HR Audit, Contemporary Issues in HRM, Trade Union in India, Safety Provisions under Factories Act 1948, Social Security, ESI Act 1948.

Outcomes: After completing this Course the students should be able to understand the concepts, principles and processes of HRM, understand the crucial role that HRM plays in helping organizations all over the world adapt to the endless change today.

- 1. Edwin B. Flippo, 'Personal Management', Tata McGraw Hill.
- 2. Bohlander, Snell & Vohra, 'Human Resource Management', Cengage COURSE.
- 3. Gary Dessler, 'Human Resource Management', McMillan.
- 4. V.S.P. Rao, 'Human Resource Management', Excel Books.
- 5. C.B. Mamoria, 'Personal Management', Himalaya Publications.
- 6. T.N. Chabbra, 'Human Resource Management', Dhanpat Rai & Sons.
- 7. C.B. Gupta, 'Human Resource Management', Sultan Chand and Sons.
- 8. R.S. Dwivedi, 'HRD in India Companies', Himalaya Publications.



MARKETING MANAGEMENT			
Subject Code: MBAD0-F94	LTPC	Duration: 45 Hrs.	
	3003		

COURSE Objectives: The Course aims at making students understand concepts, philosophies, processes and techniques of managing the marketing operations of a firm in turbulent business environment. This Course will provide better understanding of the complexities associated with marketing functions, strategies and provides students with the opportunity to apply the key concepts to practical business situations.

UNIT-I (12 Hrs.)

Understanding Marketing and Consumers: Definition, Importance, Scope, Various Marketing Concepts, Marketing Mix, Marketing vs Selling Consumer Behaviour: Understanding Consumer Behaviour, Factors Influencing Consumer Buying Behaviour, Business Buying Process, and Understanding Business Buyer Behaviour.

UNIT-II (12 Hrs.)

Creating and Managing Product: Market Segmentation, Differentiation, Targeting and Positioning, Competitors Analysis.

Product Decisions: Product Mix, New Product Development, Product Life Cycle and Strategies. **Pricing Decisions:** Objectives, Factors Affecting Pricing Decisions, Pricing Methods, Pricing Strategies

UNIT–III (11 Hrs.)

Delivering and Promoting Product: Supply Chain Decisions: Nature, Types, Channel Design and Channel Management Decisions, Retailing, Wholesaling, Managing Logistics and Supply Chain. **Promotion Decisions:** Communication Process, Promotion Mix

UNIT-IV (10 Hrs.)

Emerging Trends in Marketing: Green Marketing, Network Marketing, Direct Marketing, Social Marketing, Viral Marketing, Customer Relationship Management (CRM), Rural Marketing **E-Commerce:** Marketing in The Digital Age.

Note: Relevant Case Studies should be discussed in class.

- 1. Kotler & Koshy, 'Marketing Management', Pearsons Education.
- 2. Ramaswamy & Nama kumari, 'Marketing Management', McMillan.
- 3. Etzel, Walker, Stanton, and Pandit, 'Marketing Management', Tata McGraw Hill.
- 4. Kurtz & Boone, 'Principles of Marketing', Cengage COURSE.
- 5. Kotler & Armstrong, 'Principles of Marketing', Prentice Hall.
- 6. Biplab S. Bose, 'Marketing Management', Himalaya Publications.
- 7. Subhash c. Jain, 'Marketing Management', Cengage COURSE.
- 8. Rajan Saxena, 'Marketing Management', Tata McGraw Hill.



PROJECT MANAGEMENT

Subject code: MBAD0-F95

L T P C 3 00 3

Duration: 45 Hrs.

Course Objectives: To acquaint the students with the steps involved in the planning, implementation and control of projects.

UNIT-I (11 Hrs.)

Project Management Concepts Attributes of a Project, Project Life Cycle, The Project management Process, Benefits of Project Management, Needs Identification,

UNIT-II (12 Hrs.)

Project Selection, preparing a Request for Proposal, Soliciting Proposals, Project organization, the project as part of the functional organization, pure project organization, the matrix organization, mixed organizational systems.

UNIT-III (12 Hrs.)

Project Planning and Scheduling: Design of project management system; project work system; work breakdown structure, project execution plan, work packaging plan, project procedure manual; project scheduling; bar charts, line of balance (LOB) and Network Techniques (PERT/ CPM)/GERT, Resource allocation, Crashing and Resource Sharing

UNIT-IV (10 Hrs.)

Project Monitoring and Control and Project Performance: Planning, Monitoring and Control; Design of monitoring system, Coordination; Procedures, Meetings, Control; Scope/Progress control, Performance control, Schedule control, Cost control, Performance Indicators.

Note: Relevant Case Studies should be discussed in class.

- 1. Kanda, 'Project Management A Life Cycle Approach', PHI.
- 2. Gido, 'Project Management', Cengage COURSEs.
- 3. Vasant Desai, 'Project Management' Himalaya Publications.
- 4. Maylor, 'Project Management', Pearson Education.
- 5. Prasanna Chandra, 'Projects, Preparation, Appraisal Budgeting & Implementation', Tata McGraw Hills.

ACCOUNTING AND FINANCIAL MANAGEMENT

Subject Code – MBAD0- F96	LTPC	Duration – 45 Hrs.
-	3003	

Course Objectives: To provide an understanding of the function, the roles, the goals and the processes of corporate financial management, covering the sourcing of finances and their issues in investment and operations. Problem-solving methodology will be used to illustrate the theories and tools in financial decision making.

Unit I (12 Hrs.)

Overview: Accounting Concepts, Conventions and Principles, Accounting Equation, International Accounting Principles and Standards; Branches of Accounting: Financial, Cost and Management Accounting and Their Inter-Relationships, Mechanics of Accounting: Double Entry System of Accounting, Journalizing of Transactions

Unit II (12 Hrs.)

Preparation of Final Accounts: Profit & Loss Account, Profit & Loss Appropriation Account and Balance Sheet, Common Size Statement; Comparative Balance Sheet and Trend Analysis Cost Accounting – Objectives, Elements of Cost, Marginal Costing, Absorption Costing, Target Costing, Standard Costing, Different Methods of Costing, Break Even Analysis, Its Uses and Limitations, Break Even Chart.

Unit III (11 Hrs.)

Financial Management Nature, Scope and Objectives of Financial Management, Ratio Analysis Fund Flow Statement and Cash Flow Statement, Working Capital Decision: Meaning, Nature and Scope of Working Capital – Component off Working Capital – Factors affecting Working Capital, Working Capital Strategies.

Unit IV (10 Hrs.)

Cost of Capital, WACC, Investment Decision: Nature and Significance of Investment Decision, Capital Budgeting Techniques: Discounted and Non-Discounted Methods (Pay Back, ARR, NPV, IRR, Benefit Cost Ratio), Long Term and Short Term Sources of Funds

Course Outcomes: After completing this course the students should be able to make optimum decisions pertaining to raising funds, making investments & managing the assets of a corporation, big or small, with an ultimate goal of creating value.

- 1. Brigham, 'Financial Management: Text & Cases', Cengage Course.
- 2. Brealy&Myres, Principles of Corporate Finance', Tata McGraw Hill.
- 3. Ambrish Gupta. 'Financial Accounting for Management', 2ndEdn., Pearson Education,
- 4. I.M. Pandey, 'Financial Management', Vikas Publishers
- 5. S.P. Jain and K.L. Narang, 'Principles of Accounting', Kalyani Publishers, New Delhi, 2004

MRSPTU POST GRADUATE OPEN ELECTIVES

BUSINESS ETHICS			
Subject Code: MBAD0- F97	LTPC	Duration: 45 Hrs.	
-	3003		

Course objectives - Understand the significance of ethics and values in business, addressing issues like capitalism, social responsibility, and whistleblowing. Explore ethical practices in organizational functions, including HR management, marketing, finance, and corporate culture. Analyze broader societal ethical challenges, such as corruption, ecological concerns, discrimination, and the role of information technology. Develop skills to address ethical dilemmas, evaluate group policies, and understand the impact of laws on ethical decision-making.

UNIT-I (11 Hrs.)

Introduction to Ethics and Values and their Importance in Business: Ethical issues in Capitalism and Market System, Ethical and Social System. The Social Responsibility of Business, Ethical Conflict, Whistle Blowing.

UNIT-II (12 Hrs.)

Ethics and Organization, Ethics in Human Resource Management and Organizational Culture, Ethics in Marketing, Ethics in Finance, Ethical Codes and Incentives in Corporate Sector.

UNIT-III (12 Hrs.)

Broader Ethical issues in Society – Corruption, Ecological Concern, Discrimination on the Basis of Gender, Caste or Race, Ethics and Information Technology.

UNIT-IV (10 Hrs.)

Impact of Group Policies and Laws of Ethics, Resolving Ethical dilemma.

- 1. R.C. Shekhar, 'Ethical Choices in Business', Response Book, New Delhi.
- 2. S.C. Chakraborty, 'Managerial Transformations by Value', <u>Sage Publications, New</u> <u>Delhi,1993.</u>
- 3. Ananta K. Giri, 'Values, Ethics and Business: Challenges for Education and Management', <u>Rawat Publication, Jaipur</u>

ENGINEERING ECONOMICS & INDUSTRIAL MANAGEMENT			
Subject Code: MBAD0- F98	LTPC	Duration: 45 Hrs.	
-	3003		

Course Objectives: To run an organization Finance and Human resources are the key factors. Their proper utilization decides its success. This course will give the basic understanding of both these resources.

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Prerequisite: Basic Management Principles, C S.

Introduction: Scope of economics for engineers; Concept of: Goods, Utility, Value, Price, Capital, Money, Income; Law of Demand & Supply; Time value of money.

UNIT-II (11 Hrs.)

Cost Analysis: Cost classification: Prime cost, Overhead cost, Selling and Distribution Cost, Fixed cost, Variable cost, Implicit cost, Explicit cost, Replacement cost, Opportunity cost, Marginal cost and Sunk cost; Break even analysis; Economic order quantity.

Depreciation: Causes and Methods: Straight line method, Reducing balance method, Repair provision method, Annuity method, Sinking fund method, Revaluation method, Sum of the digit method.

UNIT-III (12 Hrs.)

Replacement Analysis: Reasons and factors for replacement; Determination of economic life of an asset; Payback period method, Annual cost method, Present worth method. **Human Resource Management:** Definition; Functions of HRM; Process of Human Resource

Planning; Methods of Recruitment; Meaning of Placement and Induction.

UNIT-IV (10 Hrs.)

Training and Development: Difference between Training and Development; methods of training and development; Promotion: merit v/s seniority; Performance Appraisal: Traditional and Modern methods; Meaning of Career Planning and Development; Career anchors; Career paths for various types of jobs; Problems in career Planning and Development.

- 1. T.R. Jain, 'Micro Economics' V.K. Publications.
- 2. P. Khanna, 'Industrial Engineering and Management', Dhanpat Rai Publication (P) Ltd.
- 3. M.S. Mahajan, 'Industrial Engineering and Production Management', <u>Dhanpat Rai & Co.</u> <u>Pvt. Ltd.</u>
- 4. T.N. Chhabra, 'Human Resource Management', Dhanpat Rai & Co.
- 5. P.L. Mehta, 'Managerial Economics', Sultan Chand & Sons.

BASIC ACCOUNTING

Subject Code: MBAD0-F99

LTPC

Duration: 45 Hrs.

3003

Objective/s & Expected Outcome: This course provides an orientation in the field of accounting and basic accounting fundamentals. After completion of this course, candidate would be able to record and post transactions in the basic accounting equation and maintain subsidiary ledgers.

UNIT-I (12 Hrs.)

Basic Accounting Concepts: Background of Accounting, Introduction, importance and scope, Accounts– Types and classification; basic terms– Capital, Income, Expenditure, Expenses, Assets, Liabilities and application to Problems. Accounting Equation, Double Entry System. Generally accepted accounting principles (GAAP)

UNIT-II (12 Hrs.)

Journal and Ledger: Journal and recording of entries in journal with narration; Ledger –Posting from Journal to respective ledger accounts. Basic concepts of purchase book, sales book and cashbook.

UNIT-III (10 Hrs.)

Trial Balance: Need and objectives; Application of Trial Balance; different types of errors escaped, trial Balance preparation.

UNIT-IV (11 Hrs.)

Final Accounts: Final Accounts without adjustments. Bank Reconciliation Statement: Bank transactions, Preparation of simple bank reconciliation statement. Application of Computer in Accounting

- 1. Jawahar Lal, 'Managerial Accounting', 1stEdn.
- 2. R.K. Mittal & M.R. Bansal, 'Financial Accounting'.
- 3. RajniSofat&Preeti Hiro, 'Basic Accounting', 2ndEdn.
- 4. Bhattacharya & Deaden, 'Accounting for Management', Paperback Edn., <u>Vikas</u> <u>Publications</u>,**1986**.
- 5. R.L Gupta & V.K. Gupta, 'Financial Accounting', (Part I and Part II).
- 6. S.N. Maheshwari, 'Fundamental Accountancy'.
- 7. Antony & Reece, 'Accounting Principal', 6thEdn.