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**EIILM University**

**SYLLABUS BOOKLET**

# DIPLOMA IN MATERIAL MANAGEMENT PROGRAMME

## Syllabus DIPLOMA IN MATERIAL MANAGEMENT SEMESTER – I PRINCIPLES OF MANAGEMENT

**Sub. Code: DMTM-101**

**Credits: 04**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

### **Unit 1: Management Development**

Nature, Scope and Process of Management; Historical Evolution of Management Thought; Different Approaches and Systems of Management: Skills, Roles and Modern Challenges.

### **Unit 2: Managing Activities**

Planning: Understanding the Needs of Planning, Types of Planning, the Elements of Planning. Strategic Planning: The Growth of Strategic Planning, Strategic Thinking Frameworks, Strategic Planning Process, Assessing Organisation's Environment, Establishing Organisational Operating Strategies.

Managerial Decision Making: Types of Managerial Decisions, Steps in Decision Making Process.

Organizing: Organisational Design, Six Key Elements of Organisational Design, Different Types of Organisational Design, Advantages and Disadvantages of Different Types of Organisational Design, Organisational Structure, Dimensions of Structure, Situational Influences on Organization Design.

Controlling: Nature of Control in Organizations, Types of Control, Steps in Control in Process, Various Levels of Control Process, Managing Control in Organizations.

### **Unit 3: Managing Human Resources**

Staffing: Human Resource Management, Human Resource Planning, Human Resource Planning Process, Human Resource Management Process, Recruitment, Selection, Socialization, Training and Development, Performance Appraisal, Promotions, Transfers, Demotions and Separations, Maintaining Human Resources, Four C's Model for Evaluating Human Resources, Special Issues in Human Resources.

Leadership: Leader, Power, Types of Power, Various Approaches to Leadership: Trait Theory Leadership, Behavioral Approach to Leadership, Contingency Theory of Leadership; Other Situational Approaches; Modern View of Leadership.

### **Suggested Reading:**

1. Management Principles and Guidelines, Dueing N T and Ivancevich M J., Biztantra.
2. Management Principles and Guidelines, Charles Hill and Steve McShane, McGraw Hill.

## **Syllabus DIPLOMA IN MATERIAL MANAGEMENT SEMESTER – I ORGANIZATIONAL BEHAVIOUR**

**Sub. Code: DMTM-102**

**Credits: 04**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

### **Unit 1: Evolution of Organizational Behaviour**

Nature of Organizational Behaviour (OB): Definition, Features, Purpose, Importance and its Difference from other Disciplines.

Historical Development of OB: Scientific Management, Human Relations Approach and Contemporary Approaches (System and Contingency).

Contributing Disciplines to the OB Field: Psychology, Sociology, Anthropology, and Political Science.

### **Unit 2: Behaviour of Individuals**

Ability: Nature and Types, Ability and Job Fit; Learning: Nature, Theories in Learning: Classical, Respondent, Operant, Cognitive and Social, Applications of Learning Principles in Organizations; Job: Job Satisfaction, Organizational Commitment, and Job Involvement; Personality: Nature, Theories in Personality Development: Trait, Stage, Cognitive Theories; Personality and Organization Fit.

Perception: Nature of Perception, Process of Perception, Social Perception, Applications in Organizations.

Motivation: Nature of Motivation, Types of Motives, Theories of Motivation; Content and Process; Organizational Applications.

### **Unit 3: Group Dynamics**

Group Behavior: Defining and Classifying Groups, Stages of Group Development, Group Decision Making, Merits and Demerits, Techniques; Understanding Work Teams; Types of Teams; Creating Effective Teams.

Leadership: Styles of Leadership, Theories in Leadership: Trait Theories, Behavioural Theories, Contingency Theories (Fiedler's Theory; Hersey and Blanchard Theory).

Conflict: Functional vs. Dysfunctional Conflict, Sources, Types of Conflict: Individual, Group, Organizational Conflict, and Conflict Resolution.

### **Unit 4: Organizational Issues**

Organizational Culture: Nature, Types, Evolution and Importance in an Organization; Organizational Change: Nature and Forces of Change, Resistance to Change, Management of Resistance to Change.

Work Stress: Sources, Consequences of Stress, its Management: Individual and Organizational.

### **Suggested Reading:**

1. Behaviour in Organizations, Greenberg J and Baron RA, PHI.
2. Organizational Behaviour: An Introductory Text, Huczynski and Buchanan, Prentice Hall.
3. Organizational Behaviour, Luthans F, Tata McGraw Hill.
4. Management and Organizational Behaviour, Mullins L J, Prentice Hall.
5. Organizational Behaviour, Robbins S P, Prentice Hall.
6. Organizational Behaviour: Text and Cases, Sekharan U, Tata McGraw Hill.

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – I**  
**MATERIAL MANAGEMENT**

**Sub. Code: DMTM-103**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK - I**

**Unit 1: Overview of Material Management**

Definition of Material Management and its Scope; Relation of Supply Chain Management with Material Management; Quality Assurance; MIS in Material Management; Organization of Material Functions; Material Planning; Overview of Material Requirement Planning.

**Unit 2: Purchasing Procedures**

Purchasing Procedures; Purchase Source Selection; Price Forecasting; Purchasing of Seasonal Commodities; Purchasing under Uncertain Situations; Purchasing Capital Equipment; International Purchasing; Preparing Purchase Documents; Purchasing Ethics; Negotiations; Vendor Management; E-commerce and Purchase Management.

**Unit 3: Store Management**

Definition of Store Management; Store Procedures; Incoming Material Control; Stock Accounting and Verification; Material Handling; Scrap Disposal; First in and First out; MIS Systems in Store Management; Documentation in Store Management; TQM Procedures in Store Management.

## **BLOCK – II**

### **Unit 4: Inventory Control**

Importance of Inventory Control; Inventory Classification; Inventory Valuation; Working Capital Requirement and Inventory Control; Economic Order Quantity Model; Codification; Catalogue Analysis; Value Engineering; Standardization; ABC Analysis; XYZ Analysis; Case Studies of Maruti Udyog and Asian Paints.

### **Unit 5: Input Systems of Inventory Management**

Glossary of Material Management Terms; ABC Inventory Control; Sampling Plan; Acceptance Situations; Administered Price; Activity based Costing; Accounting Systems; Equation Cost; Acquisition Cost; Advance Payment; Airway Bill; Foreign Exchange Regulations.

### **Unit 6: Importance of Material Management**

Evolution of Material Management into an Exacting Science; Knowledge Management in Material Management; Material Management and Material Science; Just In and Just Out; Import and Export Documentation in Material Management; Backward Integration and Material Management; Excise Documentation; Duty Drawbacks in Materials.

## **BLOCK – III**

### **Unit 7: Importance of E-commerce**

Definition of E-Procurement; Components of E-Procurement; Advantages of E-Procurement; Improving Profits through E-Procurement; Implementation of E-Procurement; Assessing an E-Procurement Package; Economics of Choosing an E-Procurement Package; Expertise Needed for E-Procurement Success; Amazon.com and E-Commerce.

### **Unit 8: ERP and its Implementation**

Definition of ERP; Importance of ERP; Globalization and ERP; Documentation and ERP; Evolution of ERP; ERP Developing as an Exacting Science; Selecting the Software; Cost of Implementation.

### **Unit 9: Other Issues**

Expertise to be Developed; Organizational Structure; Communication Skills; Key Result Areas; Management by Objectives; Stock out Situations; Engineering Spare Purchase; Raw Material Purchase; Recruitment and Training in the Material Management Function.

### **SUGGESTED READING:**

1. Purchasing and Material Management by Nair, Publisher: Vikas Publishing House, New Delhi.
2. Handbook of Materials Management by Gopal Krishnan, P, Publisher: Prentice Hall of India Pvt. Ltd., New Delhi.

3. Materials Management: An Integrated Approach by Gopalakrishnan, P. & Sundarshan, M, Publisher: Prentice Hall of India Pvt. Ltd., New Delhi.

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – I**  
**COMPUTER APPLICATION IN MANAGEMENT**

**Sub. Code: DMTM-104**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK I**

**Unit 1: Introduction to Computer System**

Introduction: Evolution of Computers, Characteristics, Classification, Generations; Computer Architecture: Components of Computer Systems (I/O Devices); Computer Memory; Data Representation.

**Unit 2: Computer Software**

Introduction to Software: Relation between Hardware and Software; Types of Software: System Software, Application Software; Software Development Life Cycle; Introduction to Algorithm; Flow chart.

**Unit 3: Operating Systems**

Operating System: Functions of OS, Measuring System Performance; Evolution of Operating Systems : Serial Processing, Batch Processing, Multiprogramming; Types of Operating System; Operating System Techniques Multitasking, Multithreading, Multiprocessing; Some Popular Operating Systems: DOS (Disk Operating System), UNIX Operating System, Linux, Microsoft Windows, Microsoft Windows NT.

## BLOCK II

### **Unit 4: Business Data Processing**

Data Processing; File Management System: File Types, File Organization, File Utilities; Database Management System: Database Models, Main Components of a DBMS, Creating and Using a Database.

### **Unit 5: Data Communications**

Basic Elements of a Communication System: Data Transmission Modes, Transmission Basics; Types of Data Transmission Media; Modulation Techniques; Modems; Analog versus Digital Transmission; Multiplexing Techniques.

### **Unit 6: Computer Networks**

Need for Computer Communication Networks; Types of Network; Network Topologies; Network Protocol; OSI and TCP/IP Model; the Future of Internet Technology; Internet Protocol; World Wide Web; E-mail; Search Engines.

## BLOCK II

### **Unit 7: Office Automation Systems Part I**

MS Word - I: Key Terminologies, Opening and Formatting Documents, Clip Art, Table, List; MS Word-II: Autocorrect, Macros, Mail Merge, Templates, Style, Border and Shading, Spelling and Grammar, Page Formatting; MS Excel-I: Working with Worksheet; MS Excel-II: Built in Function, What if analysis, Data Table Sorting; MS Excel – III: Graphs and Charts.

### **Unit 8: Office Automation Systems Part II**

MS PowerPoint I: Auto Layouts, Toolbars, Insertion of New Slides; MS PowerPoint II: Presentation Using Wizards, Usage of Design Templates, Frame Movements of the Above.

### **Unit 9: Office Automation Systems Part III**

Introduction to MS Outlook: Starting Outlook, the Outlook Inbox Window, Key to the Inbox Window, Going Online with Outlook; Computer in Office Automation, Computers in Engineering

### **Suggested Reading:**

1. **Fundamentals of Computers by Rajaraman, Publisher: Prentice Hall of India, New Delhi**
2. **Data Communication & Computer Network by White, Publisher: Thomas Learning, Bombay**
3. **Business Data Communication by Shelly, Publisher: Thomson Learning, Bombay**
4. **Computer Fundamentals by B.Ram, Publisher: New Age Int.**

5. **Computer Fundamentals by P.K Sinha, Priti Sinha, Publisher: BPB Publications, New Delhi**

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – I**  
**PRODUCTIONS AND OPERATIONS MANAGEMENT**

**Sub. Code: DTMT-105**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK I**

**Unit 1: Operations and Productivity**

Operations Functions and Evolution of POM; Framework for Managing Operations; Operations Strategy; Trends in Operations Management.

**Unit 2: Forecasting**

Introduction to Forecasting; Forecasting Models; Weighted Moving Averages; Casual Forecasting Models; Linear Regression Analysis; Multiple Regression Analysis.

**Unit 3: Product and Process Design**

Product Development; Product Design Tools; Design of Services; Flexible Manufacturing Systems; Process Design: Types of Process, Modern Production Technologies; Process Reengineering.

**BLOCK II**

**Unit 4: Capacity Design**

Capacity Management; Economies and Diseconomies of Scale and Learning Curve; Capacity Strategies; Decision Trees.

**Unit 5: Facility Location**

Location Strategy and its Importance: Factors influencing Plant Location; Globalization; Location Selection Models.

### **Unit 6: Layout Design**

Layout Planning; Layout Types; Design of Product and Process Layouts; Job Design; Work Measurement.

## **BLOCK III**

### **Unit 7: Project Scheduling**

Project Management; Scheduling Project; Case Study: Scheduling at Bellop; Logic of PERT.

### **Unit 8: Inventory Management**

Basic Economic Order Quantity (EOQ) Model; Quantity Discount Models; Spare Parts Inventory; Material Resources Planning; Manufacturing Resource Planning; Purchasing Objectives.

### **Unit 9: Operations Planning and Scheduling Systems**

Aggregate Planning and its Process; Master Scheduling; Aggregate Planning for Service Organizations; Operating Schedules; Sequencing Rules; Optimized Production Technology and Synchronous Manufacturing; Just in Time (JIT) Manufacturing System; Basics of SCM and ERP.

## **Suggested Reading**

1. Production and Operations Management by Panneerselvam R; Publisher: Prentice Hall of India
2. Operations Management by Shafer Scott M; Publisher: John Wiley
3. Succeeding in Project- Driven Organizations by Knutson Joan; Publisher: John Wiley
4. Service Operations Management by Metters Richard D; Publisher: South West
5. Operations Management by Shim Jae K; Publisher: Barron's E
6. Operations Management: Strategy and Analysis by Krajewski Lee J and Ritman; Publisher: Pearson Education
7. Production and Operations Management by Gaither and Norman; Publisher: Dryden Press.

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – II**  
**TOTAL QUALITY MANAGEMENT**

**Sub. Code: DMTM-106**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK – I**

**Unit 1: Basic TQM Concepts**

Introduction; Development of the Importance of Quality Management; Quality and Public; Factors Affecting Quality; Total Quality Management: Introduction and Principles.

**Unit 2: TQM Philosophies**

Approach to Quality: Deming, Juran, Crosby, Kaizen, Shigeo Shingo, Ishikawa, Taguchi.

**Unit 3: Concept of Quality Circles**

Objective; Process of Operation of Quality Circles; Using the Concept; Fish Bone; Application in Organization.

**BLOCK - II**

**Unit 4: Six Sigma**

Introduction; Deviation and Standard Deviation; Phases and Defective Units of Six Sigma; Its Importance; Overview of Master Black and Green Belt.

**Unit 5: Leadership**

Definition; Characteristics of Quality Leaders; Leadership Concepts; Role of TQM Leaders.

**Unit 6: Customer Satisfaction**

Introduction; Customer Perception of Quality; Feedback; Service Quality; Customer Retention.

## **BLOCK - III**

### **Unit 7: Performance Measures**

Quality Costs; Basic Concepts; Performance Measure Presentation; Appraisal Cost Category; Collection and Reporting; Analysis; Deming Prize; MBNQA.

### **Unit 8: Tools and Techniques**

Pareto and Process Flow Diagram; Check Sheets and Histograms; Quality Function Deployment; QFD – Team; Design of Experiments; Control Charts; Quality Management Systems; Bench Marking.

### **Unit 9: Case Studies**

Changing Company Culture; Xerox Corporation – Using TQM as a Competitive Strategy; Motorola's Secret to TQC; Motorola's Quest for Quality.

### **Suggested Reading:**

1. Total Quality Management by Dale H. Besterfield and others, Publisher: Prentice Hall Publishing House.
2. Managing of Total Quality by N, Logothetis, Publisher: Prentice Hall of India Private Limited.
3. A Management Guide to Quality and Productivity by J. Bicheno and M. R Gopalan, Publisher: Wiley-Dreamtech, New Delhi

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – II**  
**PURCHASING MATERIALS MANAGEMENT**

**Sub. Code: DMTM-107**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK – I**

**Unit 1: An Introduction to Materials Management**

Introduction; Operating Environment; the Supply Chain Concept; Manufacturing Planning and Control; Supply Chain Metrics; Capital Budgeting.

**Unit 2: Purchasing Policy and Procedure**

Policy Overview; Advantages and Disadvantages of Policy; Policy Role of Purchasing; Policy Conduct of Purchasing Personnel; Social and Minorities Business; Buyer-Seller Responsibilities; Policy Operational Issues; Purchasing Procedural Area.

**Unit 3: Negotiation**

Meaning of Negotiation; Negotiation Frame work; Purchase Requirement; Plan for Negotiation; Conduct the Negotiation; Execute the Agreement; Negotiation Planning; Party Strength and Weakness; Recognize Counterpart Needs; Identify Fact an Issue; Practice the Negotiation; Power the negotiation; Source of Negotiating Power; International Negotiation.

**BLOCK – II**

**Unit 4: Purchasing Law and Ethics**

Legal Authority and Personal Liability of Purchasing Manager; Laws of Agency; Legal Authority; Purchasing Ethics; Risk of Unethical Behaviour.; Types of Unethical Purchasing Behaviour; ISM Professional Code of Ethics; Supporting Ethical Behaviour; Acceptance and Rejection of Goods; Purchasing Law; Seller's and Buyer' Right; Patent and Intellectual Property Law; Unfair Trade Practice.

### **Unit 5: Purchasing Management**

Introduction; Bills of Material; Material Requirements Planning Process; Using the Material Requirement Plan; Establishing Specifications; Functional Specification Description; Selecting Suppliers; Price Determination; Impact of Material Requirements Planning on Purchasing; Some Organizational Implications of Supply Chain Management.

### **Unit 6: Inventory Management**

Introduction; Aggregate Inventory Management; Item Inventory Management; Inventory and the Flow of Material; Supply and Demand Patterns; Functions of Inventories; Objectives of Inventory Management; Inventory Costs; Financial Statements and Inventory; ABC Inventory Control.

## **BLOCK – III**

### **Unit 7: Warehousing Management**

Meaning of Storage and Warehousing; Need of Storage or Importance of Storage; Types of Warehouses; Meaning of Warehouse; Warehouse Functionality; Principles of Warehouse Operation; Developing the Warehouse Resource; Warehousing Strategy; Planning the Distribution Warehouse; Initiating Warehouse Operations.

### **Unit 8: Packaging**

Consumer Packaging; Damage Protection; Physical Environment; Outside Elements; Material Utility; Unitization.

### **Unit 9: Supply Chain Information System E-Commerce**

Overview of E-Supply Chain; Supply Chain Information Flow; Map of SCM Systems; Drivers of New Supply Chain; Internal External Strategic Integration; Data Information Management; New Business Process; Replacement of Obsolete Systems; Implement ERP System; Purchasing Database and Data Warehouses; Electronic Data Interchange; Types of Systems; Information Visibility.

### **SUGGESTED READING:**

1. Introduction to Materials Management by Martin Christopher, Publisher: Pearson Education
2. Purchasing and Supply Management, by Dobler and Burt, Publisher: Tata McGraw Hill
3. Purchasing and Materials Management, by K.S Menon, Publisher: Sultan Chand and Sons
4. Handbook of Materials Management , by Gopalkrishnan, Publisher: Sultan Chand and Sons
5. Introduction to Materials Management by J.R. Tony, Arnold , Stephen N Chapman, Publisher: Pearson Education

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – II**  
**RETAIL SUPPLY CHAIN MANAGEMENT**

**Sub. Code:DMTM-108**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK – I**

**Unit 1: Defining the Retail Supply Chain**

Introduction; More than Stores; Defining the terms: Supply Chain and Supply Chain Management; the Importance of Customer Segments; Adding Value along the Chain; Types of Supply Chain Business; Supply Chain Component Data.

**Unit 2: A Changing World: Moving Toward Comparative Advantage**

Basics on Comparative Advantage; Concept of Distance; Revenue Control, Workforce Cost, Fixed Cost, Purchased Item Cost.

**Unit 3: Drivers of Retail Supply Chain Change**

Importance of Drivers; Innovation Driver; Extended Product Design; Globalization; Flexibility Imperative – the Ultimate Capability; Process Centered Management.

**Unit 4: Path to the Customer**

Meeting Market Needs – Dimensions; Role of Specifications; Nature of Demand; Quality Function Deployment Tool: QFD Overview, Supply Chain QFD Example.

**BLOCK – II**

**Unit 5: Product Types – Value to the Customer**

The Product Life Cycle; Innovative and Functional Products; Market Research Costs; Customer Value and Product Types.

**Unit 6: Retail Supply Chain Management – Skill Required**

Five Tasks for SCM Excellence; Assessing Retail SCM Skills

**Unit 7: The Demand Driven Supply Chain**

Vision for the Demand – Driven Supply Chain; the Path from Forecast Driven to Demand Driven; Demand-Driven Tools and Techniques; Sponsoring the Demand Driven Supply Chain.

## **BLOCK – III**

### **Unit 8: Product Tracking Along Retail Supply Chains**

Low Tech Retailing; Beyond Basic Bar Codes; Radio Frequency identification: The Retail Application; Active RFID; RFID Applications; Tracking in Transit; Future of Product Tracking.

### **Unit 9: Understanding supply Chain Costs**

Barriers to Cost Visibility; Goal: Activity – Based Costing by Product; The Starting Point (I - A); Department Costs with Capital Recovery (II - B); Multi-Company Process Cost (III – C); Activity – Based Costing by Product (IV – D)

### **Unit 10: Retail Return**

Types of Returns; Opportunities in Returns: Reduced Returns, Improved Customer Service, Collaboration with Partners, Customer Feedback, Material Source, Environmental Mitigation, Additional Business, Cash to Cash Cycle Reduction, Process Standardization

### **Suggested Reading:**

1. Handbook of Supply Chain Management by James B. Ayers, Publisher: Auerback Publication
2. Retail Supply Chain Management by James B. Ayers, and Mary Ann Odegaard, Publisher: Auerback Publication
3. Essentials of Supply Chain Management by NJ Hugos, Publisher: John Wiley and Sons
4. Retailing Management by Michael Levy and Weitz Barton A, Publisher: John Wiley and Sons
5. Activity – Based Costing: Making it Work for Small and Mid- Sized Companies, Publisher: John Wiley, New York

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – II**  
**FIANANCIAL AND MANAGEMENT ACCOUNTING**

**Sub. Code: DMTM-109**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Marks**

**BLOCK – I**

**Unit 1: Introduction to Financial Accounting**

Introduction; Scope and Objectives; Branches of Accounting; Accounting Principles and Standards.

**Unit 2: Financial Accounting Framework**

Journalizing Transactions: Recording of Transaction, Advantages of Journal, Classification of Accounts and its Rules, Compound Entries; Ledger: Introduction, Posting and its Rules; Trial Balance: Trial Balance Preparation, Errors Disclosed by Trial Balance, Methods of Locating Errors in Trial Balance.

**Unit 3: Basic Principles of Preparing Final Account**

Capital Expenditure; Revenue Expenditure; Deferred Revenue Expenditure; Capital Receipts; Income Statements: Profit and Loss Statement; Balance Sheet; Final Accounts: Adjustments.

**BLOCK - II**

**Unit 4: Concept of Management Accounting**

Principles, Functions and Scope of Management Accounting; its Limitations; Management Accountant: Functions; Basic Cost Concepts; Components of Total Cost; Elements of Cost and Cost Sheet; Methods, Systems and Techniques of Costing.

**Unit 5: Cost Accounting**

Marginal Costing: Introduction, its Theory and Features, its Advantages and Disadvantages; Absorption Costing; Break - Even Analysis; Cost Volume Profit (CVP) Relationship; Basics of Break Event Point (BEP); CVP Analysis; Marginal Costing and Decision Making; Marginal Costing vs. Pricing.

**Unit 6: Tools of Financial Analysis**

Budgets: Introduction, Advantages and Disadvantages, Essentials of Budgetary Control, Budget Manual and its Working, Budget Key Factor; Fixed and Flexible Budgets; Functional and Master Budgets: Sales and Cash Budget; Zero Based and Incremental Budgets.

### **BLOCK - III**

#### **Unit 7: Techniques of Costing – Part I**

Target Costing; its Relation to New Product Development, Cost – Plus Pricing , and Activity Based Costing; Transfer Pricing; Cost Based Transfer Pricing; Transfer Pricing Law in India.

#### **Unit 8: Techniques of Costing – Part II**

Responsibility Accounting (RA): Introduction, Steps involved in RA, Advantages, Cost Centers vs. Responsibility Centers; Value Added Accounting; Inflation Accounting; Current Purchasing Power Method (CPP), Methods of Accounting for Changing Prices; Human Resources Accounting (HRA): Relevance and Models of HRA.

#### **Unit 9: Techniques of Costing – Part III**

Standard Cost; Advantages and Limitations of Standard Costing; Determination of Standard Costs; Cost Variance Analysis: Cost Variances, Causes, Types and Uses of Variances, Labor Variances, Material Cost and Labor Cost Variance Analysis, Sales Variance Analysis; Budgetary Control and Monitoring; Cost Audit and Management Audit; Cost Audit Report; Management Audit.

#### **Suggested Reading:**

1. Financial Accounting: A Managerial Perspective, HPH by Narayanswamy, Publisher: Prentice Hall of India Private Limited
2. Financial Accounting for Business Managers, by Bhattacharyya Ashish K, Publisher: Prentice Hall of India Private Limited
3. Financial Accounting for Management: Text & Cases by Subhash Sharma, Publisher: Macmillan India Limited
4. Management Accounting - Concepts & Applications by Kothari G, Publisher: Macmillan India Limited.
5. Fundamentals of Cost Accounting by Maheshwari SN, Publisher: Sultan Chand and Sons
6. Basic Financial Management by M.Y Khan, Publisher: Tata McGraw Hill
7. Costing Techniques by NK Sharma, Publisher: RBSA Publishing.

**Syllabus**  
**DIPLOMA IN MATERIAL MANAGEMENT**  
**SEMESTER – II**  
**PRODUCTION TECHNIQUES**

**Sub. Code: DMTM-110**

**Credits: 03**

**Total Marks: 100**

**Minimum Pass Marks: 40%**

**Internal Assessment: 40 Marks**

**University Examination: 60 Mark**

**BLOCK – I**

**Unit 1: An Introduction to Production Technique**

Overview; Historical Evolution of Production Technique; Modeling School; Problem Classification; Strategic Role of Operation; Primary Basis of Competition; Adaptability for Future Survival; Trade-offs and Alternatives in POM; Macro Perspective; Classical Management; Problem and Activity.

**Unit 2: Framework of Managing Production Operations**

Strategic Planning; Operational Planning & Control (Short-Term) Decisions; Value Engineering and Value Analysis; Productivity Measurement.

**Unit 3: Forecasting Models**

Meaning of Forecasting; Types of Forecasts; Causal Forecasting Models: Regression Analysis; Linear Regression Analysis; Monitoring and Controlling Forecasts; Production Technique in Practice: a Short Range Forecasting System.

**BLOCK –II**

**Unit 4: Product and Process Design**

Product Design; Product Options; Product Life Cycle; Product by Value; Defining and Documenting the Product; Basic Principles of Designing Products for Production; Make or Buy; Product Design Tools; CAD; Process of Service Design; Documents for Services; Flexible Manufacturing Systems; Factors Influencing Process Decisions; Types of Processes; Modern Production Technologies; Vertical Integration; Resource Flexibility; Process Reengineering.

**Unit 5: Capacity Strategies and Process Layout**

Capacity and its Various Measures; Capacity Utilization; Capacity Enhancement; Theory of Constraints; Layout Planning; Layout as an Indicator of Competitiveness; Layout Types; Designing of Product Layout; Line Balancing; Cycle Time and Theoretical Minimum; Designing of Process Layout.

**Unit 6: Work Measurement**

Traditional Engineering Dimension of Job Design; Behavioral Dimension of Job Design; Performance Dimension; Role of Accuracy; Work Measurement Techniques; Identifying the Three Major Activities Associated with Successful Project Processes; Diagram the Network of Interrelated Activities in a Project.

### **BLOCK - III**

#### **Unit 7: Scheduling Project**

Identify Activity Slack; Identify the Critical Activities and Duration of the Project; Find Probability of Completion of a Project in a Given Time; Case Study: Scheduling at Bellop; Importance of Inventory Management; Different Types of Inventory; Classifying Different Types of Inventory Optimal Ordering Quantity.

#### **Unit 8: Quantity Discount Models and Spare Parts Inventory**

Role of Quantity Discount Model; Continuous Review Systems; Periodic Review Systems; Spare Parts Inventory; Different Types of Spares; Spare Parts Inventory Management; Bar Coding.

#### **Unit 9: Managing the Competition**

Just-In-Time Manufacturing Systems; Seven Deadly Waste in Manufacturing; Japanese Manufacturing Technology; Total Quality Emphasis; Deming's Contribution to TQC; Enterprise Resource Planning; Supply Chain Management.

#### **SUGGESTED READING:**

1. Production and Operations Management by Kanishka Bedi, Publisher: Landmark-Books. Christopher.
2. Production and Operation Management by S. N. Chary, Publisher: Tata McGraw Hill Publication.
3. Operation Management, by William J. Stevenson, Publisher: Tata McGraw Hill.
4. Operation Management, by Lee J. Krajewski, Larry P. Ritzman, Manoj K. Malhotra, Publisher: Pearson Prentice.