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EIILM University

SYLLABUS BOOKLET

PG DIPLOMA IN MATERIAL MANAGEMENT PROGRAMME

Syllabus PG DIPLOMA IN MATERIAL MANAGEMENT SEMESTER – I ORGANIZATIONAL BEHAVIOUR AND MANAGEMENT PROCESS

Sub. Code: PGDMTM-101

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK – I

Unit 1: Introduction to Management

Nature and Scope; Historical Evolution of Management Thought; Approaches and Systems of Management; Social Responsibilities of Management; Case Study - Regarding Scope of Creativity.

Unit 2: Functions of Management

Planning: its Need, Principle, Types and Steps Involved; Managerial Decision Making: Types and Steps Involved in Decision Making Process; Organizational Design: Elements and Types; Staffing; Directing; Controlling Concepts.

Unit 3: Human Resource Management

Human Resource Planning; Recruitment, Selection and Socialization; Training and Development; Performance Appraisal.

BLOCK - II

Unit 4: Systems Approach to Management

Management Development; Scientific Management Approach; Fayol's Principles of Management; Behavioral Approach; Human Resources Perspective; Communication: Functions and Direction of Communication; Choice of Communication Channel.

Unit 5: Behavior of Individuals

Nature of Organizational Behavior; Learning: Basic Nature of Learning, Theories, Classical Conditioning, Reinforcement; Individuals and Physical Ability; Theories of Perception and Personality; Measures of Personality.

Unit 6: Motivation and Leadership

Introduction; Motivational Factors; Motivational Theories; Applications of Motivation in Organizations; Leadership and Approaches to Leadership; Management and Leadership.

BLOCK - III

Unit 7: Group Dynamics

Types of Groups; Group Structure; Groups and Teams; Stages of Group Development; Group Decision Making Techniques; Understanding Work Teams; Types of Teams; Group Dynamics and Organizational Politics.

Unit 8: Organizational Culture

Introduction; Nature and Functions of Organizational Culture; Cultural Control Mechanisms; Culture: Conceptual Framework.

Unit 9: Organizational Issues

Typology and Evolution of Organizational Culture; Forces and Key Roles; Behavioral Resistance to Change; Work Stress and Stress Management.

Suggested Reading:

1. Organizational Behavior by Stephen P. Robbins & Tim A. Judge, Publisher: Prentice Hall of India Private Limited
2. Organizational Behavior by Fred Luthans, Publisher: McGraw Hill
3. Organizational Behavior by Aswathappa K, Publisher: Himalaya Publishing House
4. Principles of Management by T. Ramasamy, Publisher: Himalaya Publishing House
5. Organizational Theory by Mary Jo Hatch, Publisher: Oxford University Press

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – I
BUSINESS ENVIRONMENT

Sub. Code: PGDMTM-102

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK – I

Unit 1: Overview of Business Environment

Concept; Meaning; Nature of Business Environment; Business Today; Types of Environment; Competitive Structures of Industries; Competitor Analysis; Environment- Business Relation; Environmental Analysis Process; Importance of Environmental Analysis.

Unit 2: Economic Systems and Political Environment

Economic System; Kinds of Economic System; the Flows of Economic Activity; Basic Problems of an Economy and the Role of Government; Political System; Function of State, Classification of Functions of State; Politico-Economic Synthesis.

Unit 3: Economic Transition in India: Privatization and Globalization

Introduction; Privatization: Objects, Privatization Routes, Benefits, Criticisms, Conditions for Success; Privatization in India; Privatization Policy; Types & Drawbacks of Privatization; Globalization; Reasons for Globalization ; Features & Stages of Globalization; Drawbacks of Globalization; Globalization Impact on Indian Economy.

Unit 4: Consumer Rights, Consumerism and Business

Introduction to Consumer Rights; the 8 Consumer Rights; Consumer Responsibility; Consumer Protection in India; Exploitation of Consumers; Plight of the Indian Consumer.

Unit 5: Business and Society

Social Environment: Poverty and Poverty Alleviation Programs, Labour and Employment, Women in the Workforce, Child Labour, Education, Health, Population and Family Welfare; Corporate Governance; Corporate Social Responsibilities; Business Ethics.

BLOCK - II

Unit 6: Business Law Part – I

Law of Contract (Indian Contract Act, 1872); Consideration & Competence to Contract; Performance and Discharge of Contracts; Contract of Agency

Unit 7: Business Law Part – II

Partnership Act, 1932; Sales of Goods Act, 1930; Law of Insurance; the Negotiable Instruments Act, 1881.

Unit 8: Company Law

Nature of Company and Formation; Memorandum and Article of Association; Prospectus; Statement in Lieu of Prospectus; Share and Share Capital; Debentures; Company Management and Remuneration; Meeting and Resolutions; Account and Audit, Prevention of Oppression, and Mismanagement; Winding Up.

Unit 9: Labor Law

Factory Act, 1948; Industrial Disputes Act, 1947; Minimum Wages Act; Workmen's Compensation Act

Suggested Reading:

1. Business Environment by Saleem Shaikh, Publisher: Pearson Education
2. Business Environment by Justin Paul, Publisher: The McGraw Hill Companies
3. Business Environment: Text and Cases by Francis Cherunilam, Publisher: Himalayan Publishing House
4. Business Environment by K. Chidambaram and V. Alagappan, Publisher: Vikas Publishing House Pvt. Ltd.
5. Labor Relations Law in India by Agarwal, S.L., Publisher: Macmillan Company of India Ltd., New Delhi
6. Industrial Law by Mallick, P.L., Publisher: Eastern Book Company, Lucknow
7. Labor and Industrial Laws by Misra, S.N., Publisher: Pioneer Publications, Delhi.
8. Aspects of Labour Welfare and Social Security by Sarma, A.M., Publisher: Himalaya Publishing House: Bombay.
9. Corporate Strategy on Fringe Benefits by Thakur, C.P., Publisher: Spectrum Publishing House: Delhi.
10. The Business Environment by Ian Worthington and Chris Britton, Publisher: Prentice Hall

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – I
MATERIAL MANAGEMENT

Sub. Code: PGDMTM-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
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – I
PRODUCTION PLANNING & CONTROL SYSTEMS

Sub. Code: PGDMTM-104

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK - I

Unit 1: Production Planning and Control

Introduction; Strategic Decisions; Tactical Decisions; Operational Decisions; Scheduling: An Introduction

Unit 2: Forecasting

Nature and Use of Forecast; Factors Affecting Forecast: Demand, Types of Forecasting in Decision Making, Sources of Data, Demand Patterns; Forecasting Models; Selection of a Forecasting Technique; Measures of Forecast Accuracy; Simple Moving Average Method; Weighted Moving Average; Double Moving Average Method; Simple (Single) Exponential Smoothing; Adjusted Exponential Smoothing; Semi-average Method; Delphi Method.

Unit 3: Capacity Planning and Investment Decisions

Capacity Planning; Determination of Plant Capacity; Capacity Planning Strategies; Equipment Selection; Investment Decisions; Interest Formulas; Bases for Comparison of Alternatives.

BLOCK - II

Unit 4 Facility Location

Introduction; Factors Influencing Plant Location; Break Even Analysis; Single Facility Location Problem; Multi-facility Location Problems; Model for Multi-facility Location Problem; Method of Transformation.

Unit 5: Plant Layout and Material Handling

Introduction; Classification of Layout; Advantages and Limitations of Process Layout; Advantages and Limitations of Product Layout; Advantages and Limitations of Group Technology Layout; Layout Design Procedures; Systematic Layout Design Procedure; Computerized Relative Allocation of Facilities Technique (CRAFT); CRAFT Procedure; Application of CRAFT; Automated Layout Design Program (ALDEP); Computerized Relationship Layout Planning (CORELAP); Application of CORELAP; Algorithms and Models for Group Technology; Rank Order Clustering Algorithm (ROC); Bond Energy Algorithm;

Mathematical Model for Machine Component Cell Formation ; Material Handling System; Unit Load Concept; Material Handling Principles; Classification of Material Handling Equipments.

Unit 6: Line Balancing

Concept of Mass Production System; Objective of Assembly Line Balancing; Generalized Algorithm [Panneerselvam, et al., 1993]; Rank Positional Weight Method; The COMSOAL Algorithm; Model for Assembly Line Balancing; Integer Programming Model to Minimize Number of Work Stations; Model to Minimize Balancing Delay (Maximize Balancing Efficiency); Stochastic Assembly Line Balancing; Case Study.

Unit 7: Aggregate Planning and Master Production Scheduling

Aggregate Planning; Nature of Aggregate Planning Decisions; Aggregate Planning Strategies; Aggregate Planning Methods; Master Production Plan/Schedule; Cut-and-Fit Methods.

BLOCK - III

Unit 8: Quality Control

Introduction; Need for Controlling Quality; Definition of a Quality System; Classification of Quality Control Techniques; Process Capability; Process Variations Distribution ;Type of Data; Control Charts; Control Chart for Variable; Control Charts for Attributes; Acceptance Sampling; Operating Characteristic Curve (O.C. Curve); Single Sampling Plan; Double Sampling Plan; Acceptance Sampling by Variables; Nomogram Method for Single Sampling Plan; Six Sigma; Approaches for Six Sigma; Types of Six Sigma Belts; Benefits of Six Sigma.

Unit 9: Maintenance Planning and Control

Maintenance Objectives; Types of Maintenance; Basic Reasons for Replacement; Deterministic Type of Items that Deteriorate with Time; Replacement ; Determination of Maintenance Crew Size, Crew Size Determination Using Analytical Queuing Model; Simulation of Maintenance System; Reliability; Reliability Improvement; Reliability Calculations; Reliability Program; Failure Modes; Effects and Criticality Analysis (FMECA); Information System for Maintenance Management; Benefits of computerized Information System; Procedure for Information System Design; Total Productive Maintenance; Objectives of TPM; Wastes Eliminated in TPM; Equipment Maintenance Techniques; Benefits of TPM; Performance Measures of Maintenance System; Pillars of TPM.

Unit 10: Modern Production Management Tools

Just-In-Time Manufacturing; Overview of JIT; Kanban; Flexible Manufacturing Systems(FMS); Total Quality Management; Quality Control Activities During; Product Cycle; Operating Quality Costs; ISO 9000 Series; Benefits of ISO 9000 Series; Steps in ISO 9000 Registration; Poka Yoke; Kaizen; Business Process Reengineering; Steps of BPR; Applications of BPR; Supply Chain Management; Integrated Business Logistics; Lean Manufacturing.

SUGGESTED READING:

1. Production Planning and Inventory Control by Narsimhan, S.L., Mcleavy, D.W. & Billington, P.J., Publisher: PHI, New Delhi.

2. Production & Operations Management by Panneerselvam R, 2nd Edition Publisher: PRENTICE H
3. Operations Management by Shafer Scott M , Publisher: John Wiley
4. Succeeding in Project – Driven Organizations by Knutson Joan, Publisher: John Wiley
5. Production and Operations Management by Rogerto Russel & Taylor, Publisher: Prentice Hall,
6. Production and Operations Management by Roger Schmenner, Publisher: Prentice Hall
7. Production and Operations Analysis by Steven Nahmias, Publisher: McGraw Hill, 5th Edition, 2005
8. Production and Operations Management by Chase, Aquilano, Jacobs, Publisher: TMH, 10th Edition, 2004
9. Production and Operations Management by James Dilworth, Publisher: McGraw Hill International

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – I

PROJECT MANAGEMENT

Sub. Code: PGDMTM-105

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK - I

Unit 1: Introduction

Definition of a Project; an Historical Perspective on Project Management; Current Issues in Project Management; the Relationship between Project Management and General Management; the Project Management Knowledge Base.

Unit 2: Structures and Framework

The Project Model; the Four Phases of Project Management; the 7-S of Project Management; the Project Environment; the Complexity of Projects; the Structures of the Projects.

Unit 3: Strategy and Project Management

Why Strategy? Organizational Strategy and Projects; Project Management as a Strategic Capability; Resource Coordination; Project and Organizational Goals; Project Performance Measurement.

BLOCK - II

Unit 4: Project Definition

Developing the Concept; Scope Management; the Project Process; Work Breakdown Structure (WBS); Process Mapping; Establishing Check-Points; Stakeholder Management.

Unit 5: Time Planning

Time Planning: the Process; Gantt Charts; Estimating; Activity-on-Arrow; (A-O-A) Diagrams and Critical Path Analysis (CPA); Activity on Node (A-O-N) Diagrams; Activity on Arrow versus Activity on Node Method; Scheduling; Computer Assisted Project Planning; Fast-Track Projects.

Unit 6: Cost and Quality Planning

Cost Planning Process; Cost-Estimating Techniques; Cost Build-Up; Cost Management; Budgets; the Quality Planning Process; Quality Conformance Planning; Quality Performance Planning.

Unit 7: Plan Analysis and Risk Management

Analyzing Time Plans; Analyzing Cost Plans; Analyzing Quality Plans; Risk Management; Risk Quantification Techniques.

BLOCK - III

Unit 8: Control of Projects

Control System; Control of Major Constraints: Quality, Control of Major Constraints Monitoring; the Role of Project Management Information System (MIS); Change Control; Control of the Work of Development Projects: Intellectual Property.

Unit 9: Problem Solving and Decision Making

The Problem Framework; Modeling Systems for Decision Making; Handling Uncertainty in Decision Making; Mathematical Modeling Techniques; Problem Solving Tools; Cause – Effect - Cause Analysis; Decision Trees; Simple Decision Frameworks; Decision Support Systems; the Importance of the Follow Up Actions.

Unit 10: Project Completion and Review

Project Completion and Handover; Structuring Improvement Activities; Learning before Doing: the Role of External Knowledge; Learning by Doing: the Role of Audit and Review, Carrying out Revise; Justifying it all: Evaluate the Cost of Quality.

SUGGESTED READING:

1. Projects: Planning Analysis, Selection, Implementation and Review by Chandra, Prasanna, Publisher: Tata McGraw Hill, New Delhi.
2. Project Management by Bhavesh, M Patel, Publisher: Vikas Publishing House, New Delhi.
3. Project Finance by Machiraju, H. R., Publisher: Vikas Publishing House, New Delhi.
4. Project Management and Control by Rao, P.C.K., Publisher: Sultan Chand & Sons, New Delhi.
5. Project Management (third edition) by Harvey Maylor

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – II
RESEARCH METHODOLOGY & QUANTITATIVE TECHNIQUES

Sub. Code: PGDMTM-106

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK – I

Unit 1: Research Process

Fundamentals of Research process; Role of Research in Business Decision Making; Types of Research; Steps in Research Process; Classification of Research Proposal; Contents of Research Proposal; Case Study: Research Proposal.

Unit 2: Research Design

Fundamentals of Research Design: Essentials of Research Design; Different Research Design. Experiment Design; Writing the Research Report: Categories of Reports, Steps of Report Writing, Key Elements, Methods of Report Writing, Formatting, Pilot-Test.

Unit 3: Sampling

Sources of Market Data; Secondary Data; Survey Data; Consumer Panel; TV Meters; Statistical sampling; Diaries in Social Research; Internet as a Source of Data; Secondary Analysis; Survey; Questionnaire Design: Issues in Questionnaire, Sample Questionnaires.

BLOCK – II

Unit 4: Data Grouping

Introduction to Data Grouping; Frequency Distribution; Formation of Discrete Series; Formation of Continuous Series; Graphic Presentation of Data; General Rules for Construction of Graphs; Histogram; Frequency Polygon.

Unit 5: Data Analysis

Measures of Central Value: Average, Types of Average, Arithmetic Mean, its Merits and Demerits, Median, its Merits and Demerits; Related Positional Measures: Quartile, Percentile, Decile; Mode: Merits and Demerits; Relationship between Mean, Median and Mode; Measure of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variance.

Unit 6: Probability and Distribution

Fundamentals of Probability: Concept, Calculation; Theorems: Additional, Multiplication, Conditional Probability; Theoretical Distribution: Binomial Distribution, Poisson Distribution, Normal Distribution.

BLOCK – III

Unit 7: Hypothesis

Introduction to Hypothesis; Types of Hypothesis; Testing of Hypothesis; Z- Test; T-Test; F-Test.

Unit 8: Correlation

Introduction to Correlation; Significance of Correlation; Types of Correlation; Coefficient of Correlation.

Unit 9: Regression

Introduction to Regression; Uses of Regression; Difference between Correlation and Regression; Regression Equation; Linear & Multiple Regression.

Suggested Reading:

1. Quantitative Methods for Business & Economics by Mouhammed, Publisher: PHI, 2007 Edition.
2. Quantitative Techniques for Managerial Decisions by A. Sharma, Publisher: Macmillan, 2008 Edition.
3. Quantitative Techniques for Decision Making by A. Sharma, Publisher: HPH, 2007 Edition.
4. Statistical Methods by S.P Gupta, Publisher: Sultan Chand & Sons, 2008 Edition.
5. Research Methodology by C. R. Kothari, Publisher: Vikas Publishing House
6. Research Methodology and Statistical Methods by T. Subbi Reddy, Publisher: Reliance Publishing House
7. Research Methodology and Statistical Techniques by Santosh Gupta , Publisher: Deep and Deep Publication
8. Research Methodology by V. P. Pandey, Publisher: Himalaya Publication
9. Research Methodology in Management by Arbind and Desai, Publisher: Ashish Publication House

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – II
STRATEGIC MANAGEMENT

Sub. Code: PGDMTM-107

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK – I

Unit 1: Strategic Planning

Strategic Context and Terminology; Definition of Strategy; Difference between Policy, Strategy and Tactic; Difference between Long Range Planning and Strategic Planning; Characteristics of Strategic Decisions.

Unit 2: Strategic Architecture

Level of Strategy; Characteristics of Strategic Decision at 3 Levels; Role of Strategic Management.

Unit 3: Object / Mission / Vision

Concepts of Goal, Objectives, Mission, and Vision; Comparative Analysis of Objectives, Mission, and Vision in Different Context; Understanding of Objectives, Mission, and Vision; Strategic Intent.

BLOCK – II

Unit 4: Different Approaches to Strategy

Introduction to Different Approaches to Strategy; Incremental and Emergent Strategies; Implicit and Explicit Strategies; Approaches to Strategic Management; Strategic Implementation; Strategic Evaluation and Control; Planning Process: Feature, Importance, and Steps; Strategic Planning Process; Strategic Planning in the Next Millennium.

Unit 5: Strategy Formulation: Environmental Auditing

Environmental Analysis; Environmental Complexity; Pestle Analysis; Porter's 5 Force Analysis.

Unit 6: Strategy Formulation: Strategic Direction

Introduction to Understanding Business; Competitor Analysis; Boston Matrix; International Dimensions of Strategy: Growth, Stability, Profitability, Efficiency, Market Leadership, Survival, Merger, and Acquisition; Core Competence.

BLOCK – III

Unit 7: Strategy Formulation: The Internal Audit

Bench Marking; the Use of McKinsey's 7S Framework; SWOT (Strength, Weakness, Opportunities, and Threats) Analysis; Value Chain Analysis; Scope of Activities and Markets.

Unit 8: Strategy Implementation

Framework of Strategic Implementation: Concept, Factors causing Unsuccessful Implementation of Strategy; Activation Strategy; Structural Implementation; Functional Implementation; Behavioral Implementation; Resource Mobilization and Allocation: Finance, Human Resources, Materials, and Time.

Unit 9: Strategic Evaluation and Control

Strategic Evaluation and Control: Concept, Role, and Barriers; Control Process; Techniques of Strategic Evaluation and Control.

SUGGESTED READING:

1. Exploring Corporate Strategy by Johnson & Scholes, Publishing House: Prentice Hall
2. The Strategy Process by Mintburg, Quinn, and Ghosal, Publishing House: Prentice Hall

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – II
LOGISTIC MANAGEMENT

Sub. Code: PGDMTM-108

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK - I

Unit 1: Concepts Objectives and Elements of Logistics

Concept of logistics; Importance of logistics; Objectives of logistics; Components of Logistics.

Unit 2: Logistics Subsystem

Marketing Logistics; Essence of Logistics In Marketing; Marketing Trends; Relevance of Logistics In Export Management; Importance of Logistics as a Strategic Resource; Trade-Off Analysis; Forms of Logistics Management.

Unit 3: Integrated Logistics

Work of Logistic; Integrated Logistics; Barriers to Internal Integration.

BLOCK – II

Unit 4: Supply Chain Relationships Part I

Introduction; Channel Structure; the Economics of Distribution; Specialization; Assortment; Concentration; Customization.

Unit 5: Supply Chain Relationship Part II

Supply Chain Competitiveness; Risk, Power, and Leadership; Elements of Success; Logistical Service Alliances; Factors Stimulating Service Based Alliances; Core Specialization; Power Clarity; Cooperation Emphasis; Regional Alliances Create Transcontinental Moves; Integrated Logistics Service Provider.

Unit 6: Transportation

Transport Functionality and Principles; Product Movement; Product Storage; Relationship between the Shipper, the Consignee, and the Public.

BLOCK – III

Unit 7: Multi-Modal Transport

Concept of Multimode Transport; Features of Multimodal Transport System; Advantages of Multimodal Transport; Suppliers of Transportation Services; Typical Carrier Ancillary Services.

Unit 8: Warehousing

Introduction; Definitions as per Bombay Warehouse Act, 1959; Evolution of Concept of Warehousing; Importance / Benefits of Warehousing; Warehouse Operating Principles; Developing the Warehouse Resource.

Unit 9: Inventory Management

Introduction; Inventory Types and Characteristics; Component of Inventory Carrying Cost; Planning the Inventory Resource; Volume Transportation Rates; Quantity Discounts; Time-Series Lot Sizing.

Suggested Reading:

1. Logistics & Supply Chain Management by [Martin Christopher](#), Publisher: Pearson Publication
2. Business Logistics Management by [Ronald H. Ballou](#), Publisher: ABC Publication
3. Logistics and Supply Chain Management by G Raghuram and N Rangaraj, Publisher: Macmillan Publication.

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – II
QUALITY MANAGEMENT SYSTEM - RELIABILITY AND
MAINTAINABILITY

Sub. Code: PGDMTM-109

Credits: 03

Total Marks: 100

Minimum Pass Marks: 40%

Internal Assessment: 40 Marks

University Examination: 60 Marks

BLOCK - I

Unit 1: Quality Management

The Quality Movement: Philosophy and History, Contributions of Deming, Shewhart, Juran, Crosby, Taguchi and Others.

Unit 2: Problem Solving Tools and Analysis

Overview of Organizational Change; Various Problem Solving Tools; Flow Charts; Cause and Effect Diagrams; Check Sheets; Run Charts, Histograms; Scatter Diagrams; Pareto Charts; Statistical Process Control; Control Chart of Variables; Control Chart of Attributes; Acceptance; PDCA; Cost of Quality.

Unit 3: Strategies for Implementing Quality Systems

General Implementation of Quality Management systems; Deming Prize; Quality Function; Deployment; Benchmarking and its Importance; ISO 9000 Quality Standards.

BLOCK - II

Unit 4: Reliability

Introduction and Objectives of Reliability; Quality and Reliability; Failure Analysis; Failure Causes and Mechanisms; Failure Mode: its Causes and Mechanisms, Failure Mode Effects and Criticality Analysis (FMECA).

Unit 5: Probabilistic Models of Failure Phenomena

Models Used for Reliability Evaluation; Probabilistic Models of Failure; Repairable and Non Repairable Systems; Life Models for Non Repairable Systems: Lognormal, Gamma and Fatigue Life Distributions; Life Models for Repairable Systems: Homogenous Poisson Process (HPP), Non Homogenous Poisson Process (NHPP); System Modeling Analysis; Reliability Testing; Growth; Monitoring and Testing; Accelerated Testing.

Unit 6: Designing for Reliability

Principles of Reliability Management; Reliability Culture in Organization; Managerial Introspection; Proaction; Steps in Training; Managing for Reliability.

BLOCK – III

Unit 7: Maintainability

Introduction; Scope; Maintainability in the Life Cycle; Design for Maintainability Planning; Maintainability Program Requirements; Tasks and Process.

Unit 8: Measures of Maintainability

Reliability Factors; Maintainability Factors; Logistic Support Factors and Resources; Availability; Dependability and Effectiveness Factors; Maintenance and Allocation Requirements; Maintainability Analysis; Design Criteria; Design Analysis and Evaluation Tools; Maintainability Cost Analysis; Maintenance Prediction and HR Analysis; Maintenance Task Analysis.

Unit 9: Quality Reliability and Maintainability in Service Sector

Service Industries and Their Characteristics; Service Quality Management; Techniques for Evaluation; Applications of Quality Concepts in Various Industries; Service Reliability and Maintainability.

Suggested Reading:

1. Fundamentals of Quality Control and Improvement, Amitava Mitra Publisher: Prentice Hall.
2. Accelerated Quality and Reliability Solutions, Klyatis Lev, Publisher: Elsevier Science.
3. Applied Reliability, Tobias Paul A, Publisher: Chapman and Hall / CRC

Syllabus
PG DIPLOMA IN MATERIAL MANAGEMENT
SEMESTER – II
PRODUCTION TECHNIQUES

Sub. Code: PGDMTM-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.

