



SunRise University

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DIPLOMA IN LOGISTICS & PRODUCTION(DLPM) SYLLABUS

FIRST SEMESTER

PAPER CODE	PAPER NAME	INTERNAL	EXTERNAL	TOTAL
DLPM 101	INTRODUCTION TO PRODUCTION AND INDUSTRIAL ENGINEERING	40	60	100
DLPM 102	LOGISTICS & SUPPLY CHAIN MANAGEMENT	40	60	100
DLPM 103	PRODUCTION PLANNING & CONTROL	40	60	100
DLPM 104	PRINCIPLES OF INDUSTRIAL ENGINEERING	40	60	100
DLPM 105	COMMUNICATIVE ENGLISH PART I	40	60	100
TOTAL		200	300	500

SECOND SEMESTER

PAPER CODE	PAPER NAME	INTERNAL	EXTERNAL	TOTAL
DLPM 106	QUALITY MANAGEMENT	40	60	100
DLPM 107	FACILITIES DESIGN	40	60	100
DLPM 108	PROCUREMENT MANAGEMENT	40	60	100
DLPM 109	WAREHOUSE & INVENTORY MANAGEMENT	40	60	100
DLPM 110	COMMUNICATIVE ENGLISH PART II	40	60	100
TOTAL		200	300	500

DLPM 101: INTRODUCTION TO PRODUCTION AND INDUSTRIAL ENGINEERING

UNIT I: MANUFACTURING PROCESSES

Introduction to Various Manufacturing Processes: Casting; Forming; Machining; Joining, Finishing. Types of Production Systems

UNIT II: INDUSTRIAL ENGINEERING

Introduction to Industrial Engineering; Types of Organizations, Scientific Management; Production Quality Concepts.

UNIT III: DESIGN

Design as a creative problem-solving process, phases of design, design philosophy, design for success, materials in design.

UNIT IV: ENERGY AND WORK

Energy and work: sources and conversion, natural forms of energy, conversion of energy.

UNIT V: RECENT TRENDS IN PRODUCTION AND INDUSTRIAL ENGINEERING.

DLPM 102: LOGISTICS & SUPPLY CHAIN MANAGEMENT

UNIT I: INTRODUCTION

Understanding supply chain, supply chain performance; supply chain drivers and obstacles.

UNIT II: CONCEPTS OF LOGISTICS AND TRANSPORT

Define concepts of logistic and transport in modern society. Explain exclusionary stages of logistics, today and future of logistics. Differentiate transport modes, design and select suitable modes for a network under different situations. Explain different types of International Logistics. Apply different techniques in Logistic and Transport.

UNIT III: PLANNING DEMAND AND SUPPLY IN A SUPPLY CHAIN

Demand forecasting in supply chain, aggregate planning in supply chain, planning supply and demand; managing predictable variability, Economic Order Quantity Models, Reorder Point Models, Multi-echelon Inventory Systems.

UNIT IV: PLANNING AND MANAGING INVENTORIES IN A SUPPLY CHAIN

Managing economies of supply chain, managing uncertainty in a supply chain, determining optimal levels of product availability.

UNIT V: TRANSPORTATION, NETWORK DESIGN AND INFORMATION TECHNOLOGY

Transportation aspects in a supply chain, facility Decision, Network design in a supply chain, Information technology and its use in supply chain.

DLPM 103: PRODUCTION PLANNING & CONTROL

UNIT I: INTRODUCTION

Manufacturing function; Elements of production systems; Types of production systems; Objectives and functions of production planning and control.

UNIT II: PRODUCT DESIGN

Identification of product ideas and selection, product development and design, product analysis: marketing aspects, product characteristics, economic analysis, profitability and competitiveness, production aspects.

UNIT III: FORECASTING

Concepts and applications, demand forecasting, principle of forecasting, forecasting techniques, quantitative and qualitative, Delphi technique.

UNIT IV: PRODUCTION PLANNING

Preplanning, selection of materials, methods, machines and man power, aggregate production planning, master production planning, Break Even Analysis (BEA), concepts, make or buy decisions.

UNIT V: PRODUCTION CONTROL

Dispatching rules, dispatching of work card, inspection card and reports, control boards and charts, expediting, progress reporting, corrective change in schedules.

DLPM 104: PRINCIPLES OF INDUSTRIAL ENGINEERING

UNIT I: INDUSTRIAL ENGINEERING

Introduction to industrial engineering. Functions of organization, Elements of organization, Principles of organization, Types of organization and their selection.

UNIT II: PLANT LAYOUT AND MATERIAL HANDLING

Site selection, types of layout, factors affecting layout, plant building, flexibility and expandability, Principles of material handling, types and selection of materials handling equipment.

UNIT III: PRODUCTION PLANNING AND CONTROL

Functions, forecasting, routing, operations planning; Gantt chart, work order, dispatching and follow-up; CPM and PERT techniques.

UNIT IV: INVENTORY CONTROL

Scope, purchasing and storing, economic lot size; ABC Analysis.

UNIT V: QUALITY CONTROL

Statistical quality control, control charts for variables and attributes: X bar, R, p & c charts, Concepts & Scope of TQM and QFD. Acceptance Sampling: Consumers risk, Producers risk, LQL, AQL, OC curves, Types of sampling plans, AOQ, ATI

UNIT VI: WORK STUDY

Scope, work measurement and method study, standard data, ergonomics and its industrial applications.

DLPM 105: COMMUNICATIVE ENGLISH PART I

UNIT 1 : INTRODUCTION TO COMMUNICATION

Origin, Purpose of Communication, Importance of Communication, Basic Forms of Communication, Nature of Communication, Basics of Communication, Self-Development and Communication, Objectives of Self Development.

UNIT 2 : PROCESS OF COMMUNICATION AND BARRIERS IN COMMUNICATION

Process of Communication, Barriers in Communication

UNIT 3 : EFFECTIVE COMMUNICATION

Factors Affecting Communication, Importance of Effective Communication, Essentials of Effective Communication, Effective Managerial Communication, Miscommunication

UNIT 4: ORAL / WRITTEN COMMUNICATION

Pronunciation of Vowels and Consonants, Phrases and Sentences, Kinds of Sentences, Parts of Speech, Nouns and Pronouns, Gender and Number, Prepositions and Conjunctions, Verbs, Tense, Sentence Construction.

DLPM 106: QUALITY MANAGEMENT

UNIT I: INTRODUCTION

Different definitions, dimensions, and aspects of quality; Traditional and modern views of quality control, Different Philosophies by quality Gurus, seven basic and new quality control tools.

UNIT II: STATISTICAL PROCESS CONTROL

Theory and applications of control charts, controls charts for variables: charts for averages, ranges, and standard deviation, control charts for attributes: p and c charts, fraction defective and number of defects per unit, different adaptations of control charts, manufacturing process variability, manufacturing process capability and tolerances.

UNIT III: ACCEPTANCE SAMPLING

Concept of acceptance sampling, sampling by attributes: single and double sampling plans; Construction and use of OC curves.

UNIT IV: TOTAL QUALITY MANAGEMENT

Concept and philosophy, scope, applications, implementation, quality function deployment, six sigma, process capability, just-in-time philosophy, quality circles, quality system and Introduction to ISO 9000 and ISO 14000.

UNIT V: RELIABILITY

Concept and definition, measurement and test of reliability, design for reliability, concepts of maintainability and availability.

DLPM 107: FACILITIES DESIGN

UNIT I: FACTORY PLANNING

Introduction, factors to be considered

UNIT II: PLANT LOCATION AND SITE SELECTION

Levels of plant location, rural, urban and suburban location of plants, factors influencing the plant location, optimum plant location, location theories.

UNIT III: PLANT LAYOUT

Introduction of production system, scope, objectives, importance, and types of plant layout, characteristics of a good plant layout, factoring affecting plant layout, procedure of developing a plant layout, installation and evaluation of plant layout, optimum plant layout.

UNIT IV: GROUP TECHNOLOGY

Definition, objectives, planning, part families and machine cell formation, evaluation of machine cells, types of GT layout, benefits of GT, implementation of GT.

UNIT V: LINE BALANCING

Definitions, heuristic and analytical methods of balancing the assembly and production line, single and mixed model line balancing, alternatives to line balancing.

UNIT VI: MATERIALS HANDLING

Definition, scope, objectives, principles, importance, factors in materials handling problem, analysis of materials handling, types and selection of materials handling equipment's, aids and techniques in materials handling equipment selection. Planning of material flow, advantages of planned material flow, flow planning principles, flow patterns, analysis of material flow

DLPM 108: PROCUREMENT MANAGEMENT

UNIT I: INTRODUCTION TO PROCUREMENT MANAGEMENT

Demonstrate procurement as a profit centre. Analyze procurement objectives. Demonstrate role of procurement in corporate planning.

UNIT II: PROCUREMENT ORGANIZATIONS

Apply principles of organizing the procurement functions. Examine procurement organization in terms of Dept. PMU, Tender Boards and purchase committees. Analyze complex procurement project.

UNIT III: PROCUREMENT CONTRACT AND PURCHASE ORDERS

Examine Procurement procedures. Examine steps in procurement. Analyze stages involved in procurement management cycle. Examine purchase requisition.

UNIT IV: SOURCING, PRICE AND PRICE ANALYSIS

Explain sourcing process. Apply sourcing information in supplier selection. Analyze market condition. Apply E-sourcing. Examine procurement of capital items, framework contract and common use items. Demonstrate pricing agreement. Analyze price and cost

UNIT V: LINE BALANCING

Definitions, heuristic and analytical methods of balancing the assembly and production line, single and mixed model line balancing, alternatives to line balancing.

DLPM 109: WAREHOUSE & INVENTORY MANAGEMENT

UNIT I: BASIC PHILOSOPHY OF WAREHOUSE MANAGEMENT

Analyze role and responsibilities of warehouse manager. Explain the role of warehouse functions in an organization. Explain the advantages and disadvantages of Centralization and decentralization of warehouse functions.

UNIT II: WAREHOUSES AND STOCK YARDS

Analyze location of warehouse and stockyards prerequisite for design futures contraction of warehouse and stockyards, cost consideration and hiring of storage accommodation, classification of storage premises. Examine public and private safety features, security features and fire precaution.

UNIT III: NATURE OF MATERIALS, STORAGE, STORAGE EQUIPMENT AND METHODS

Describe classification of materials and their storage requirements. Analyze physical and materials characteristics. Analyze specialized storage systems. Describe specialize storage systems and types of hazards. Describe storage equipment and their cost. Describe and evaluate storage methods and systems of storage.

UNIT IV: INVENTORY ORDERING SYSTEMS AND ECONOMIC ORDER QUANTITY

Describe inventory system. Apply inventory system. Describe different approaches for EOQ, EBQ. Apply re-order levels, sensitivity analysis, effects of discounts.

UNIT V: INVENTORY MANAGEMENT TECHNIQUES

Identify different inventory management techniques. Analyze inventory management techniques.

UNIT VI: PACKAGING, PACKING AND PRESERVATION:

Analyze packing and packaging materials. Explain preservation and packaging process. Describe container and scraps and utilization and disposal

UNIT VII: MATERIALS HANDLING

Explain materials handling functions, nature and scope. Differentiate materials handling equipment, safety, precautions and legal requirements of capacity, capacity planning, capacity requirement planning, capacity available and required, scheduling order

DLPM 110: COMMUNICATIVE ENGLISH PART II

UNIT 1: ORAL COMMUNICATION

Exercises to improve writing skills, Exercises to improve speaking skills

UNIT 2 : BUSINESS COMMUNICATION

Nature of Business Communication, Objectives of Business Communication, Types/Scope of Business Communication, Importance of Business Communication, Business Correspondence

UNIT 3: COMMUNICATION SKILLS

Body Language, Interpersonal Skills, Active Listening and Critical Thinking, Emotional Intelligence
Dialogue Skills