

GOVT. POLYTECHNIC MAYURBHANJ
ACADEMIC SESSION-2026-27
LESSON PLAN

Discipline : Mechanical Engg.		Semester: 5th Sem	Name of the Teaching Faculty : Mihir Mohanta		
Subject : Industrial Engineering & Management		No. of Days / per week class allotted : 03	Semester From date : 14.07.26	To Date : 05.11.26	
MONTH	Week	Day	Topics		
AUGUST	3RD	1st	Plant Engineering: Plant; Selection of site of industry, Plant layout; Principles of a good layout; Types, Process		
		2nd	Product and Fixed position; Techniques to improve Layout, Principles of Material handling equipment; Plant maintenance		
	4TH	1st	Importance; Break down maintenance; Preventive maintenance and Scheduled maintenance.		
		2nd	Plant Safety: Importance; Accident: Causes and Cost of an Accident, Accident Proneness, Prevention of Accidents		
		4th	Industrial disputes; Settlement of Industrial disputes, Collective bargaining; Conciliation; Mediation; Arbitration		
	5TH	1st	Indian Factories Act 1948 and its provisions related to health, welfare and safety		
		2nd	WorkStudy: Productivity; Standard of living		
		4th	Method of improving Productivity; Objectives; Importance of good working condition		
	AUGUST	2ND	1st	Method Study: Definition; Objectives; Selection of a job for method study	
			2nd	Basic procedure for conduct of Method study; Tools used	
			4th	Operation process chart; Flow process chart; Two handed process chart	
		3RD	1st	Work Measurement: Definition; Basic procedure in making a time study	
2nd			Employees rating factor; Application of time allowances: Rest, Personal, Process		
4th			Special and Policy allowances; Calculation of standard time; Numerical Problems		
4TH		1st	Basic concept of production study; Techniques of Work Measurement		
		2nd	Ratio delay study; Synthesis from standard data; Analytical		
		4th	estimating and Predetermined Motion Time System (PMTS).		
5TH		1st	Production Planning and Control: Introduction; Major functions of Production Planning and Control		
		2nd	Preplanning; Methods of forecasting; Routing and Scheduling		
		4th	Dispatching and Controlling; Concept of Critical Path Method (CPM)		
SEPTEMBER	1ST	1st	Types of Production: Mass Production, Batch Production and Job Order Production		
		2nd	Characteristics; Economic Batch Quantity (EBQ); Principles of Product and Process Planning		
		4th	Make or Buy decision; Numerical problems.		
	2ND	1st	Quality Control: Definition; Objectives; Types of Inspection		
		2nd	First piece, Floor and Centralized Inspection; Advantages and Disadvantages		
		4th	Statistical Quality Control; Types of Measurements; Method of Variables		
	3RD	4th	Method of Attributes; Uses of X, R, p and c charts		
		1st	Operating Characteristics curve (O.C curve)		
		2nd	Sampling Inspection; Single and Double Sampling plan		
	4TH	4th	Concept of ISO 9001:2008 Quality Management System Registration/Certification		
		1st	procedure; Benefits of ISO to the organization.		
		2nd	Principles of Management: Definition of Management; Administration		
OCTOBER	1ST	4th	Organization; F.W. Taylor's and Henry Fayol's Principles of Management; Functions of Manager; Types of Organization		
		1st	Line, Staff, Taylor's Pure functional types; Line and staff and committee type; Directing; Leadership		
		2nd	Styles of Leadership; Qualities of a good leader; Motivation; Positive and Negative Motivation; Modern Management Techniques		
	2ND	4th	Just In Time; Total Quality Management (TQM); Quality circle; Zero defect concept; 5S Concept; Management Information Systems.		
		1st	Personnel Management: Responsibility of Human Resource Management; Selection Procedure; Training of Workers		
		2nd	Apprentice Training; On the Job training and Vestibule School Training; Job Evaluation and Merit Rating; Objectives and Importance		
	3RD	4th	Wages and Salary Administration; Components of Wages; Wage Fixation; Type of Wage Payment: Halsey's 50% Plan, Rowan's Plan and Emerson's efficiency plan;		
		4th	Numerical Problems.		
		1st	Financial Management: Fixed and Working Capital; Resources of Capital; Shares Preference and Equity Shares; Debentures		
	5TH	2nd	Type of debentures; Public Deposits; Factory Costing: Direct Cost; Indirect Cost; Factory Overhead; Selling Price of a product; Profit; Numerical Problems		
		4th	Depreciation; Causes; Methods: Straight line, sinking fund and percentage on Diminishing Value Method; Numerical Problems.		
		1st	Material Management: Objectives of good stock control system; ABC analysis of Inventory		
NOVEM	1ST	2nd	Procurement and Consumption cycle; Minimum Stock, Lead Time		
		4th	Reorder Level-Economic Order Quantity problems; Supply Chain.		

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