LESSON PLAN

ORISSA SCHOOL OF MINING ENGINEERING KEONJHAR

DEPARTMENT OF MECHANICAL ENGG

DISCIPLINE	SEMESTER	NAME OF THE FACULTY
MECHANICAL ENGG.	5th	NIHARIKA MOHANTA
SUBJECT/CODE	NO. OF PERIODS ALLOTTED IN A WEEK : 03	SEMESTER W.E.F.: 01.07.2026
INDUSTRIAL ENGG AND MANAGEMENT/TH3(A)		TO DATE : 5-11-2026
		NUMBER OF WEEKS : 15

LEARNING OUTCOMES:

After the completion of the course, the student shall be able to

CO-01 : Explain the different types of lay out and plant maintenance with safety.

CO-02 :List and explain the need for method study and work measurements

CO-03 : Describe production planning and quality control, and its functions.

CO-04 : Define the principles of personnel management and organizational behavior.

CO-05 : List and explain the different financial and material management.

Month	Period	Date	Topics to be Covered
JULY	1	02-07-2026	UNIT 1 Plant Engineering: Plant; Selection of site of industry; Plant layout;
JULY	2	02-07-2026	Principles of a good layout; Types; Process; Product and Fixed position;
JULY	3	03-07-2026	Techniques to improve Layout; Principles of Material handling equipment;
JULY	4	09-07-2026	Plant maintenance; Importance; Break down maintenance; Preventive maintenance and Scheduled maintenance.
JULY	5	09-07-2026	Plant Safety: Importance; Accident: Causes and Cost of an Accident, Accident Proneness,
JULY	6	10-07-2026	Prevention of Accidents; Industrial disputes; Settlement of Industrial disputes;
JULY	7	17-07-2026	Collective bargaining; Conciliation; Mediation; Arbitration;
JULY	8	23-07-2026	Indian Factories Act 1948 and its provisions related to health, welfare and safety.
JULY	9	23-07-2026	UNIT II WorkStudy: Productivity; Standard of living; Method of improving Productivity; Objectives;
JULY	10	24-07-2026	**Importance of good working conditions.Method Study: Definition; Objectives;**
JULY	11	30-07-2026	Selection of a job for method study; Basic procedure for conduct of Method study;
JULY	12	30-07-2026	Tools used; Operation process chart; Flow process chart;
JULY	13	31-07-2026	Two handed process chart; Man Machine chart; String diagram and flow diagram.
AUGUST	14	06-08-2026	Work Measurement: Definition; Basic procedure in making a time study;
AUGUST	15	06-08-2026	Employees rating factor; Application oftime allowances:
AUGUST	16	07-08-2026	Rest, Personal, Process, Special and Policy allowances;
AUGUST	17	13-08-2026	Calculation of standard time; Numerical Problems;
AUGUST	18	13-08-2026	Basic concept of production study; Techniques of Work Measurement;
AUGUST	19	14-08-2026	Ratio delay study; Synthesis from standard data; Analytical estimating and Predetermined Motion Time System (PMTS).
AUGUST	20	20-08-2026	UNIT-III Production Planning and Control: Introduction; Major functions of Production Planning and Control;
AUGUST	21	20-08-2026	Preplanning; Methods of forecasting; Routing and Scheduling; Dispatching and Controlling;

AUGUST	22	21-08-2026	Concept of Critical Path Method (CPM);
AUGUST	23	28-08-2026	Types of Production: Mass Production, Batch Production and Job Order Production; Characteristics;
SEPTEMBER	24	03-09-2026	Economic Batch Quantity (EBQ); Principles of Product and Process Planning; Make or Buy decision;
SEPTEMBER	25	03-09-2026	Numerical problems.
SEPTEMBER	26	10-09-2026	Quality Control: Definition; Objectives; Types of Inspection: First piece, Floor and Centralized Inspection;Advantages and Disadvantages;
SEPTEMBER	27	10-09-2026	Statistical Quality Control; Types of Measurements; Method of Variables; Method of Attributes;
SEPTEMBER	28	11-09-2026	**Uses of X, R, p and c charts; Operating Characteristics curve (O.C curve);**
SEPTEMBER	29	17-09-2026	Sampling Inspection; Single and Double Sampling plan;
SEPTEMBER	30	17-09-2026	Concept of ISO 9001:2008 Quality Management System Registration/Certification procedure; Benefits of ISO to the organization.
SEPTEMBER	31	18-09-2026	Principles of Management:
SEPTEMBER	32	24-09-2026	UNIT IV Definition of Management; Administration; Organization;
SEPTEMBER	33	24-09-2026	F.W. Taylor's and Henry Fayol's Principles of Management;
SEPTEMBER	34	25-09-2026	Functions of Manager; Types of Organization: Line, Staff, Taylor's Pure functional types; Line and staff and committee type
OCTOBER	35	01-10-2026	Directing; Leadership; Styles of Leadership; Qualities of a good leader;
OCTOBER	36	08-10-2026	**Motivation; Positive and Negative Motivation;**
OCTOBER	37	08-10-2026	**Modern Management Techniques; Just In Time; Total Quality Management (TQM);**
OCTOBER	38	09-10-2026	**Quality circle; Zero defect concept; 5S Concept; Management Information Systems.**
OCTOBER	39	15-10-2026	Personnel Management:Responsibility of Human Resource Management; Selection Procedure
OCTOBER	40	15-10-2026	Training of Workers; Apprentice Training; On the Job training and Vestibule School Training; J
OCTOBER	41	16-10-2026	Job Evaluation and Merit Rating; Objectives and Importance; Wages and Salary Administration; Components of Wages; Wage Fixation; Type of Wage Payment: Halsey's
OCTOBER	42	29-10-2026	50% Plan, Rowan's Plan and Emerson's efficiency plan; Numerical Problems.
OCTOBER	43	29-10-2026	UNIT-V Financial Management:ixed and Working Capital; Resources of Capital; Shares Preference and Equity Shares
OCTOBER	44	30-10-2026	Debentures; Type of debentures; Public Deposits; Factory Costing: Direct Cost; Indirect Cost; Factory Overhead; Selling Price of a product; Profit;
NOVEMBER	45	05-11-2026	Numerical Problems;
NOVEMBER		05-11-2026	Depreciation; Causes; Methods: Straight line, sinking fund and percentage on Diminishing Value M
NOVEMBER		EXTRA	Material Management:Objectives of good stock control system; ABC analysis of Inventory;
NOVEMBER		EXTRA	Procurement and Consumption cycle; Minimum Stock, Lead Time, Reorder Level-Economic Order Quantity problems; Supply Chain.

M Ghosh
25/06/2026