

GOVT. POLYTECHNIC, NAYAGARH
LESSON PLAN
6th SEMESTER MECHANICAL ENGINEERING (2024-25)
SUBJECT-INDUSTRIAL ENGINEERING & MANAGEMENT
(w.e.f 04/02/2025)

NAME OF FACULTY: MONALISA SAHOO (Sr. Lect.)

TOTAL PERIODS-60
THEORY-4P/WEEK

Sl No.	week	Day	Topics to be covered
1	1 st	1 st day	Describe the features governing plant location.
		2 nd day	Define plant layout
		3 rd day	Describe the objective and principles of plant layout.
		4 th day	Explain Process Layout, Product Layout
Sl No.	week	Day	Topics to be covered
2	2 nd	1 st day	Explain Combination Layout & Fixed position Layout
		2 nd day	Introduction to Operations Research and its applications
		3 rd day	Define Linear Programming Problem
		4 th day	Solution of L.P.P. by graphical method
Sl No.	week	Day	Topics to be covered
3	3 rd	1 st day	Numerical Problem Solving practice
		2 nd day	Evaluation of Project completion time by Critical Path Method
		3 rd day	Terms used in CPM with Network Diagram
		4 th day	PERT (Simple problems)- Explain distinct features of PERT with respect to CPM
Sl No.	week	Day	Topics to be covered
4	4 th	1 st day	Difference between PERT & CPM
		2 nd day	Expected time calculation of PERT with standard deviation chart
		3 rd day	Numerical Problem practice on PERT & CPM
		4 th day	Introduction to Inventory Control
Sl No.	week	Day	Topics to be covered
5	5 th	1 st day	Classification of inventory.

	2 nd day	Objective of inventory control.
	3 rd day	Describe the functions of inventories and Benefits of inventory control.
	4 th day	Costs associated with inventory

Sl No.	week	Day	Topics to be covered
6	6 th	1 st day	Terminology in inventory control
		2 nd day	Explain and Derive economic order quantity for Basic model.
		3 rd day	Numericals on EOQ Model
		4 th day	Define and Explain ABC analysis.
Sl No.	week	Day	Topics to be covered
7	7 th	1 st day	Describe the objectives of plant maintenance
		2 nd day	Describe the duties, functions and responsibilities of plant maintenance department.
		3 rd day	Describe the types of maintenance: Preventive and Breakdown maintenance
		4 th day	Describe the types of Scheduled and Predictive maintenance.
Sl No.	week	Day	Topics to be covered
8	8 th	1 st day	Importance of plant maintenance
		2 nd day	Techniques to improve Plant layout.
		3 rd day	Principles of material handling equipment.
		4 th day	Revision and Discussions with doubt clearance
Sl No.	week	Day	Topics to be covered
9	9 th	1 st day	Define Inspection and Quality control.
		2 nd day	Describe planning of inspection
		3 rd day	Describe types of inspection
		4 th day	Advantages and disadvantages of quality control
Sl No.	week	Day	Topics to be covered
10	10 th	1 st day	Study of factors influencing the quality of manufacture
		2 nd day	Explain the Concept of statistical quality control, Control charts (X and R chart)
		3 rd day	Explain P and C charts

Sl No.	week	Day	Numericals on Control chart practice
			Topics to be covered
11	11 th	1 st day	Methods of attributes
		2 nd day	Concept of ISO 9001-2008
		3 rd day	Quality management system, Registration /certification procedure.
		4 th day	Benefits of ISO to the organization
Sl No.	week	Day	Topics to be covered
12	12 th	1 st day	JIT, Six sigma, 7S, Lean manufacturing method
		2 nd day	Solve problems on above techniques
		3 rd day	Introduction to Production Planning and Control
		4 th day	Major functions of production planning and control
Sl No.	week	Day	Topics to be covered
13	13 th	1 st day	Methods of forecasting
		2 nd day	Routing procedure
		3 rd day	Scheduling and Dispatching procedure
		4 th day	Controlling procedure
Sl No.	week	Day	Topics to be covered
14	14 th	1 st day	Types of production
		2 nd day	Mass production
		3 rd day	Batch production
		4 th day	Job order production
Sl No.	week	Day	Topics to be covered
15	15 th	1 st day	Principles of product and process planning
		2 nd day	Principles of product and process planning
		3 rd day	Numerical Practice
		4 th day	Doubt clearance and Revision

Ref
03/02/25
R.M.D.