GOVT. POLYTECHNIC, NAYAGARH
6TH SEMESTER MECHANICAL ENGINEERING 2025-26(SUMMER)
LESSON PLAN

Subject: - TH1. INDUSTRIAL ENGINEERING & MANAGEMENT **Total Periods: - 60**
Name of Faculty: - Mrs.Monalisa Sahoo, Sr.Lect Mech. **Theory: - 4p/Week**
Session: - 22/12/2025 to 18/04/2026

Sl No.	week	Day	Topicsto becovered
1	1st	1st	**1. PLANT ENGINEERING:** Selection of Site of Industry. Describe the features of governing plant location.
		2nd	Define plant layout
		3rd	Describe the objective and principles of plant layout.
		4th	Explain Process Layout, Product Layout
Sl No.	**week**	**Day**	**Topicsto becovered**
2	2nd	1st	Explain Combination Layout & Fixed position Layout
		2nd	**2. OPERATIONS RESEARCH:** Introduction to Operations Research and its applications
		3rd	Define Linea Programming Problem
		4th	Solution of L.P.P. by graphical method
Sl No.	**week**	**Day**	**Topicsto becovered**
3	3rd	1st	Numerical Problem Solving practice
		2nd	Evaluation of Project completion time by Critical Path Method
		3rd	Terms used in CPM with Network Diagram
		4th	PERT(Simple problems)-Explain distinct features of PERT with Respect to CPM
Sl No.	**week**	**Day**	**Topicsto becovered**
4	4th	1st	Difference between PERT & CPM
		2nd	Expected time calculation of PERT with standard deviation chart
		3rd	NumericalProblempracticeonPERT&CPM
		4th	Introduction to Inventory Control
Sl No.	**week**	**Day**	**Topicsto becovered**
5	5th	1st	**3. INVENTORY CONTROL:** Classification of inventory.
		2nd	Objective of inventory control.
		3rd	Describe the functions of inventories and Benefits of inventory control.
		4th	Costs associated with inventory
Sl No.	**week**	**Day**	**Topicsto becovered**
6	6th	1st	Terminology in inventory control
		2nd	Explain and Derive economic order quantity for Basic model
		3rd	Numerical on EOQ Model
		4th	Define and Explain ABC analysis.
Sl No.	**week**	**Day**	**Topicsto becovered**
7	7th	1st	Describe the objectives of plant maintenance
		2nd	Describe the duties, functions and responsibilities of plant maintenance department
		3rd	Describethe types of maintenance: Preventive and Breakdown maintenance
		4th	Describe the types of Scheduled and Predictive maintenance
Sl No.	**week**	**Day**	**Topicsto becovered**
8	8th	1st	Importance of plant maintenance
		2nd	Techniques to improve Plant layout.
		3rd	Principles of material handling equipment.
		4th	Revision and Discussions with doubt clearance

Sl No.	week		Topicsto becovered
9	9th	1st	**4. INSPE TION AND QUALITY CONTROL:** Define Inspection and Quality control.
		2nd	Describe planning of inspection
		3rd	Describe types of in. ection
		4th	Advantages and disac antages of quality control
Sl No.	**week**	**Day**	**Topicsto becovered**
10	10th	1st	Study of factors influencing the quality of manufacture
		2nd	Explain the Concept of statistical quality control, Control charts (X and R chart)
		3rd	Explain P and C charts
		4th	Numerical on Control chart practice
Sl No.	**week**	**Day**	**Topicsto becovered**
11	11th	1st	Methods of attributes
		2nd	Concept of ISO 9001-2008
		3rd	Quality management system, Registration/certification procedure
		4th	Benefits of ISO to the organization
Sl No.	**week**	**Day**	**Topicsto becovered**
12	12th	1st	JIT,Sixsigma,7S,Lean manufacturing method
		2nd	Solve problems on above techniques
		3rd	**5.0 PRODUCTION PLANNING AND CONTROL:** Introduction to Production Planning and Control
		4th	Major functions of production planning and control
Sl No.	**week**	**Day**	**Topicsto becovered**
13	13th	1st	Methods of forecasting
		2nd	Routing procedure
		3rd	Scheduling and Dispatching procedure
		4th	Controlling procedure
Sl No.	**week**	**Day**	**Topicsto becovered**
14	14th	1st	Types of production
		2nd	Mass production
		3rd	Batch production
		4th	Job order production
Sl No	**week**	**Day**	**Topicsto becovered**
15	15th	1st	Principles of product and process planning
		2nd	Principles of product and process planning
		3rd	Numerical Practice
		4th	Doubt clearance and Revision

Learning Resources:

1 O.P.KHANNA INDUSTRIAL ENGINEERING & MANAGEMENT DHANPAT RAI & SON
2 MARTAND TELSANG INDUSTRIAL ENGG & PRODUCTION MANAGEMENT
3 M.MAHAJAN S.CHAND 4 STATISTICAL QUALITY CONTROL DHANPAT RAI &SONS

22/12/25

Mrs.Monalisa Sahoo,
Sr.Lect Mech.