GOVT. POLYTECHNIC, NAYAGARH

LESSON PLAN

6th SEMESTER MECHANICAL ENGINEERING (2022-23)

SUBJECT-INDUSTRIAL ENGINEERING & MANAGEMENT

(w.e.f 14/02/2023)

NAME OF FACULTY: MONALISA SAHOO (W/S Suptd.)

TOTAL PERIODS-60

THEORY-4P/WEEK

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

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

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

Ref-1
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