KIIT POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Session (2023-2024)

Discipline: Mechanical Engineering	**Semester:** 6th, Summer /2024	**Name of the Teaching Faculty:** Rabi Sankar Pattanaik Lecturer **Email ID:** rspattnaikfme@kp.kiit.ac.in
Subject: Industrial Engineering and Management, Theory-01	**No. of Days/Week:** 04	**Start Date:** 16/01/2024 **End Date:** 26/04/2024

Week	Class Day	Theory Topics
1st	1st	**PLANT ENGINEERING:** Plant and plant location Selection of Site of Industry. Factors governing plant location.
	2nd	Plant layout and their types, The objective and principles of plant layout.
	3rd	Process Layout with relative advantages and dis advantages.
	4th	Product Layout with relative advantages and dis advantages.
2nd	1st	Combination Layout. Techniques to improve layout.
	2nd	Principles of material handling equipment
	3rd	Plant maintenance and its Importance
	4th	i) Break down maintenance. ii) Scheduled maintenance.
3rd	1st	iii) Preventive maintenance. iv) Predictive Maintenance
	2nd	*Doubt Clearing Class*
	3rd	*Assignment Evaluation*
	4th	**INVENTORY CONTROL:** Inventory Control and their types, Objective and functions of inventory control.
4th	1st	Benefits of inventory control. Costs associated with inventory.

	2nd	Terminology in inventory control, Concept of Economic order quantity (EOQ Model)
	3rd	ABC analysis
	4th	Solve numerical on EOQ
5th	1st	Concept of ABC analysis.
	2nd	*Doubt Clearing class*
	3rd	*Assignment Evaluation / Class Test*
	4th	**OPERATIONS RESEARCH:** Operations Research, methods of operation research and its applications.
6th	1st	Linear Programming Problem with its application
	2nd	Solving L.P.P. by graphical method.
	3rd	Solving L.P.P. by graphical method.
	4th	Solving L.P.P. by graphical method.
7th	1st	**NETWORK ANALYSIS:** Network analysis and its related terms such as event, activity, critical activity, non-critical activity, dummy activity and critical path
	2nd	EST, EFT, LST, LFT, float, total project duration
	3rd	Evaluation of Project completion time by Critical Path Method (Simple problems)
	4th	Evaluation of Project completion time by PERT (Simple problems)
8th	1st	Distinguish between PERT with respect to CPM.
	2nd	Solve related problems
	3rd	Solve related problems
	4th	*Doubt Clearing Class*
9th	1st	*Assignment Evaluation / Quiz Test*
	2nd	**PRODUCTION PLANNING AND CONTROL** Production planning and control Major functions of production planning and control
	3rd	Principles of product and process planning
	4th	Methods of forecasting
10th	1st	Concept of Routing, Scheduling
	2nd	Dispatching and controlling
	3rd	Types of production like Mass, Batch and Job order production
	4th	*Doubt Clearing Class*
11th	1st	*Class Test*
	2nd	**INSPECTION AND QUALITY CONTROL:** Inspection and Quality control.

		Planning of inspection.
	3rd	Types of inspection.
	4th	Quality Control and discuss the factors influencing the quality of manufacture.
12th	1st	Advantages and disadvantages of quality control.
	2nd	Concept of statistical quality control, Control charts
	3rd	Methods of attributes
	4th	Control charts (X and R charts).
13th	1st	Control charts (C and P charts).
	2nd	Solving Related Problems
	3rd	Solving Related Problems
	4th	Quality management system, Registration /certification procedure.
14th	1st	Concept of ISO 9001-2008 Benefits of ISO to the organization.
	2nd	Concept of JIT
	3rd	Concept of Six sigma,7S and Lean manufacturing
	4th	*Assignment Evaluation / Quiz Test*
15th	1st	*Practice Test*
	2nd	*Revision*
	3rd	*Revision*
	4th	*Discussion of previous year question paper*

13/1/24

Signature of Concerned Teacher