Orissa School of Mining Engineering Keonjhar

Department of Mechanical Engineering

Lesson Plan w.e.f 10.03.2022-30.06.2022

Subject: **Industrial Engineering & Management**			
Discipline: **Mechanical Engineering**		Name of the Faculty: **Dr Niharika Mohanta**	
Course Code:	**Th1**	Semester:	**6th**
Total Periods:	**4P/W**	Examination:	**2022 SUMMER**
Theory Periods:	4P/W	Class Test:	20
Maximum Marks:	**100**	End Semester Examination:	80

Week	Class Day	Theory Topics
1st	1st	**Plant Engineering** Describing the features governing plant location.
	2nd	Plant layout: Definition, objective and principles of plant layout
	3rd	Process Layout: Definition, objective and principles
	4th	Product Layout: Definition, objective and principles
2nd	1st	Combination Layout: Definition, objective and principles
	2nd	Techniques for improvement plant layout
	3rd	Techniques for improvement plant layout
	4th	Principles of material handling equipment
3rd	1st	Plant maintenance: Objectives of plant maintenance
	2nd	Importance of plant maintenance
	3rd	Types of maintenance, Preventive maintenance
	4th	Breakdown maintenance
4th	1st	Scheduled maintenance
	2nd	Predictive maintenance
	3rd	Topic end, Question answer discussion, Assignment 1
	4th	**Operations Research:** Introduction to Operations Research and its applications
5th	1st	Define Linear Programming Problem, Solution of L.P.P. by graphical method
	2nd	Numerical problems related to L.P.P.
	3rd	Evaluation of Project completion time by Critical Path Method(CPM)
	4th	Numerical problems related to CPM
6th	1st	Program Evaluation and Review Technique(PERT) Method
	2nd	Numerical problems related to PERT
	3rd	Distinct features of PERT with respect to CPM
	4th	Topic end, Question answer discussion, Assignment 2
7th	1st	**Inventory Control:** What is inventory? Classification of inventory
	2nd	Objective of inventory control. Describe the functions of inventories.
	3rd	Define and Explain ABC analysis.

	4th	Benefits of inventory control.
8th	1st	Costs associated with inventory
	2nd	Terminology in inventory control
	3rd	What is Economic Order Quantity(EOQ),Derive Economic Order Quantity(EOQ) for Basic model
	4th	Numerical problems related to EOQ
9th	1st	Define and Explain ABC analysis
	2nd	**Inspection and Quality Control:** Define Inspection and Quality control
	3rd	Describe planning of inspection(method)
	4th	Types of inspection(Explanation)
10th	1st	Advantages and disadvantages of quality control. factors influencing the quality of manufacture
	2nd	Concept of statistical quality control(SQC),
	3rd	Control charts (X, R, P and C - charts) (Concepts and significance)
	4th	Numerical problems related to Control charts
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.
12th	1st	Just In Time (JIT) method, : Concept, Benefits, implementation areas, advantages ,current applications
	2nd	Six Sigma Technique
	3rd	7Sigma Technique, Lean manufacturing
	4th	Topic end, Question answer discussion, Assignment 5
13th	1st	**Production Planning And Control:** Introduction
	2nd	Major functions of production planning and control
	3rd	Methods of forecasting
	4th	Routing
14th	1st	Scheduling
	2nd	Dispatching
	3rd	Controlling
	4th	Types of production(Mass production, Batch production)
15th	1st	Job order production
	2nd	Principles of product and process planning
	3rd	Topic end, Question answer discussion, Assignment 6
	4th	Revision.