

DHABALESWAR INSTITUTE OF POLYTECHNIC

DEPARTMENT OF MECHANICAL ENGINEERING

SUB – INDUSTRIAL ENGINEERING AND MANAGEMENT

SEM-6th

SESSION – SUMMER 2022

NO OF DAY/WEEK -4

LECT: - S.K. SENAPATI

PRE-REQUISITE	Basic knowledge about operation research, inventory control, quality control, production control and plant engineering		
COURSE OUTCOMES	CO1: Identify the place for a new plant set up and systematic arrangement of machinery and shop for smooth production CO2: Understanding of stock management and maintenance to reduce plant ideal time. CO3: To use the charts to record the quality of products. CO4: To eliminate unproductive activities under the control of the management, supervisor, worker and the design of products and processes.		
Week	Class Day	Theory / Practical Topics	DELIVERY METHOD
1ST	1ST	PLANT ENGINEERING - INTRODUCTION	Whiteboard
	2ND	Selection of Site of Industry	Whiteboard
	3RD	Define plant layout.	Whiteboard
	4TH	Describe the objective and principles of plant layout	Whiteboard
2ND	1ST	Explain Process Layout, Product Layout and Combination Layout	PPT
	2ND	Techniques to improve layout	Whiteboard
	3RD	Principles of material handling equipment	Whiteboard
	4TH	Plant maintenance.	Whiteboard
3RD	1ST	Importance of plant maintenance. Break down maintenance	Whiteboard
	2ND	Preventive maintenance. Scheduled maintenance	Whiteboard
	3RD	QUIZ & ASSIGNMENT-I	GOOGLE FORMS
	4TH	Introduction to Operations Research and its applications	Whiteboard
4TH	1ST	Introduction to Operations Research and its applications	Whiteboard
	2ND	Flat collar bearing of single and multiple types.	Whiteboard
	3RD	Define Linear Programming Problem.	Whiteboard
	4TH	Define Linear Programming Problem.	Whiteboard
5TH	1ST	2.3Solution of L.P.P by graphical method	PPT
	2ND	2.3Solution of L.P.P by graphical method	PPT
	3RD	Evaluation of Project completion time by Critical Path Method and PERT (Simple problems).	Whiteboard
	4TH	Explain distinct features of PERT with respect to CPM.	Whiteboard
6TH	1ST	Explain distinct features of PERT with respect to CPM	Whiteboard
	2ND	QUIZ & ASSIGNMENT-II	GOOGLE FORMS
	3RD	Classification of inventory.	PPT
	4TH	Objective of inventory control.	Whiteboard
7TH	1ST	Describe the functions of inventories.	Whiteboard
	2ND	Benefits of inventory control.	Whiteboard
	3RD	Costs associated with inventory.	Whiteboard
	4TH	Terminology in inventory control.	Whiteboard
8TH	1ST	Explain and Derive economic order quantity for Basic model. (Solve numerical).	Whiteboard
	2ND	Explain and Derive economic order quantity for Basic model. (Solve numerical).	Whiteboard
	3RD	Define and Explain ABC analysis	Whiteboard

9TH	4TH	QUIZ & ASSIGNMENT-III	
	1ST	Define Inspection and Quality control	GOOGLE FORMS
	2ND	Describe planning of inspection.	Whiteboard
	3RD	Describe types of inspection	Whiteboard
10TH	4TH	Advantages and disadvantages of quality control	Whiteboard
	1ST	Study of factors influencing the quality of manufacture	Whiteboard
	2ND	Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts).	PPT
	3RD	Methods of attributes.	PPT
11TH	4TH	Concept of ISO 9001-2008.	Whiteboard
	1ST	Quality management system, Registration /certification procedure	Whiteboard
	2ND	Benefits of ISO to the organization	Whiteboard
	3RD	JIT, Six sigma, 7S, Lean manufacturing & Problem Solving	Whiteboard
12TH	4TH	QUIZ & ASSIGNMENT-IV	
	1ST	PRODUCTION PLANNING AND CONTROL - Introduction.	PPT
	2ND	Major functions of production planning and control	Whiteboard
	3RD	Methods of forecasting	Whiteboard
13TH	4TH	Routing, Scheduling, Dispatching	Whiteboard
	1ST	Controlling	Whiteboard
	2ND	Types of production	PPT
	3RD	Mass production	PPT
14TH	4TH	Batch production	Whiteboard
	1ST	Job order production	Whiteboard
	2ND	Principles of product and process planning	Whiteboard
	3RD	QUIZ & ASSIGNMENT-V	
15TH	4TH	GOOGLE FORMS	
	1ST	REVISION	
	2ND	REVISION	
	3RD		
	4TH		