ACADEMIC LESSON PLAN FOR SUMMER SEMESTER, FEBRUARY – 2023

Govt. Polytechnic , Balasore.

Name of the Faculty : Udayendu Sahoo, PTGF (Humanities)

INDUSTRIAL ENGINEERING & MANAGEMENT

Theory: 4 Periods per week

Total Periods: 60 Periods

Examination: 3 hours

Semester: 6th MECH.

Internal Assessment: 20 Marks

End Sem Exam: 80 Marks

Total Marks: 100 Marks

Discipline: MECH.	Semester:6th	Name of the Teaching Faculty: Udayendu Sahoo
Subject: INDUSTRIAL ENGINEERING & MANAGEMENT	No. of Days/per week class allotted: 04 Days	Semester from date:14/2/2023 To date: 23.5.2023 No. of Weeks: 15
Week	Class Day	Theory Topics
1st	1st	**PLANT ENGINEERING** Selection of Site of Industry Define plant layout
	2nd	Describe the objective and principles of plant layout
	3rd	Explain Process Layout, Product Layout and Combination Layout
	4th	Techniques to improve layout
2nd	1st	Principles of material handling equipment
	2nd	Plant maintenance
	3rd	Importance of plant maintenance
	4th	Break down maintenance
3rd	1st	Preventive maintenance
	2nd	Scheduled maintenance
	3rd	**OPERATIONS RESEARCH** Introduction to Operations Research and its applications
	4th	Define Linear Programming Problem
4th	1st	Define Linear Programming Problem

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	2nd	Solution of L.P.P. by graphical method
	3rd	Solution of L.P.P. by graphical method
	4th	Solution of L.P.P. by graphical method
5th	1st	Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)
	2nd	Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)
	3rd	Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)
	4th	Explain distinct features of PERT with respect to CPM
6th	1st	**INVENTORY CONTROL** Classification of inventory
	2nd	Objective of inventory control
	3rd	Describe the functions of inventories
	4th	Benefits of inventory control
7th	1st	Benefits of inventory control
	2nd	Costs associated with inventory
	3rd	Terminology in inventory control
	4th	Explain and Derive economic order quantity for Basic model. (Solve numerical)
8th	1st	Explain and Derive economic order quantity for Basic model. (Solve numerical)
	2nd	Define and Explain ABC analysis
	3rd	**INSPECTION AND QUALITY CONTROL** Define Inspection and Quality control
	4th	Describe planning of inspection
9th	1st	Describe types of inspection
	2nd	Advantages and disadvantages of quality control
	3rd	Study of factors influencing the quality of manufacture

	4th	Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts)
10th	1st	X-Chart
	2nd	R-Chart
	3rd	P-Chart
	4th	C-Chart
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	JIT, Six sigma,7S, Lean manufacturing
	2nd	**PRODUCTION PLANNING AND CONTROL** Introduction Major functions of production planning and control
	3rd	Major functions of production planning and control
	4th	Methods of forecasting
13th	1st	Routing
	2nd	Scheduling
	3rd	Dispatching
	4th	Controlling
14th	1st	Types of production
	2nd	Types of production
	3rd	Mass production
	4th	Batch production
15th	1st	Job order production
	2nd	Job order production
	3rd	Principles of product and process planning
	4th	Principles of product and process planning

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