

Academic Lesson Plan for INDUSTRIAL ENGINEERING & MANAGEMENT(Summer-2026)

Discipline: Mechanical Engineering	Semester: 6th	Name of Faculty: PRIYA RANJAN SAMANTARAY
Subject:INDUSTRIAL ENGINEERING & MANAGEMENT	No. of days/per week Class Allotted: 4	Semester from: 22/12/2025
		No. of weeks:15
Week	Class Day	Theory Topics
1st	1st	1.3 Describe the objective & principles of plant layout
	2nd	1.4 Explain process, product & combination layout
	3rd	1.5 Techniques of improve layout
	4th	1.6 Principles of material handling equipment
2nd	1st	1.7 Plant, break down, preventive, scheduled maintenance & its importance, Doubt clearing class on above chapter
	2nd	2.0 Operations Research
	3rd	2.1 Introduction to operations research
	4th	2.2 Applications of operation research
3rd	1st	2.3 Define linear programming problem
	2nd	2.4 Evaluation of project completion time by critical path method & PERT
	3rd	2.5 Explain distinct features of PERT w.r.t CPM
	4th	2.6 Simple Problems, Doubt clearing class on above chapter
4th	1st	3.0 Inventory Control
	2nd	3.1 Classification of inventory
	3rd	3.2 Objective of inventory control
	4th	3.3 Describe the functions of inventories
5th	1st	3.4 Benefits of inventory control
	2nd	3.5 Costs associated with inventory
	3rd	3.6 Terminology in inventory control
	4th	3.7 Explain & derive economic order quantity for basic model,internal examination
	1st	3.8 Define & explain ABC analysis,revision on internal exam question

6th	2nd	3.9 Solve numericals, Doubt clearing class on above chapter
	3rd	4.0 Inspection & Quality Control
	4th	4.1 Define inspection & quality control
7th	1st	4.2 Describe planning of inspection
	2nd	4.3 Describe types of inspection
	3rd	4.4 Advantages & Disadvantages of quality control
	4th	4.5 Study of factors influencing the quality of manufacture
8th	1st	4.6 Explain the concept of statistical quality control, control charts (X,R,P&C-charts)
	2nd	4.7 Methods of attributes
	3rd	4.8 Concept of ISO 9001-2008
	4th	4.9.1 Quality management system, registration/certification procedure
9th	1st	4.9.2 Benefits of ISO to the organisation
	2nd	4.9.3 JIT, Six sigma, 7S, Lean manufacturing
	3rd	4.9.4 Solve related problems, Doubt clearing class on above chapter
	4th	5.0 Production Planning & Control
10th	1st	5.1 Introduction
	2nd	5.2 Major functions of production planning & control
	3rd	5.3 Methods of forecasting
	4th	5.3.1 Routing, Scheduling, Dispatching, Controlling
11th	1st	5.4 Types of production
	2nd	5.4.1 Mass production
	3rd	5.4.2 Batch production
	4th	5.4.3 Job order production
12th	1st	5.5 Principles of product & process planning , Doubt clearing class on above chapter
	2nd	5.0 Production Planning & Control
	3rd	5.0 Production Planning & Control
	4th	5.0 Production Planning & Control

13th	1st	5.1 Introduction
	2nd	5.2 Major functions of production planning & control
	3rd	5.3 Methods of forecasting
	4th	5.3.1 Routing, Scheduling, Dispatching, Controlling
14th	1st	5.4 Types of production
	2nd	5.4.1 Mass production
	3rd	5.4.2 Batch production
	4th	5.4.3 Job order production
15th	1st	5.5 Principles of product & process planning , Doubt clearing class on above chapter
	2nd	5.5 Principles of product & process planning , Doubt clearing class on above chapter
	3rd	5.5 Principles of product & process planning , Doubt clearing class on above chapter
	4th	5.5 Principles of product & process planning , Doubt clearing class on above chapter

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Academic Lesson Plan for COMPUTER-INTEGRATED MANUFACTURING(Summer-2026)		
Discipline: Mechanical Engineering	Semester: 4th	Name of Faculty: PRIYA RANJAN SAMANTARAY
Subject:COMPUTER-INTEGRATED MANUFACTURING	No. of days/per week Class Allotted: 3	Semester from: 22/12/2025
		No. of weeks:15
Week	Class Day	Theory Topics
1st	1st	Concept of Computer Integrated Manufacturing (CIM); Basic components of CIM
	2nd	Concept of Computer Integrated Manufacturing (CIM); Basic components of CIM
	3rd	Concept of Computer Integrated Manufacturing (CIM); Basic components of CIM
2nd	1st	Distributed database system
	2nd	Distributed communication system
	3rd	Computer networks for manufacturing
3rd	1st	Computer networks for manufacturing
	2nd	Future automated factory
	3rd	Social and economic factors.
4th	1st	Social and economic factors.
	2nd	Computer Aided Design (CAD)
	3rd	CAD hardware and software
5th	1st	product modelling, automatic drafting
	2nd	product modelling, automatic drafting
	3rd	engineering analysis
6th	1st	engineering analysis
	2nd	FEM design review and evaluation
	3rd	FEM design review and evaluation
7th	1st	Group Technology Centre.
	2nd	Group Technology Centre.
	3rd	Computer Aided Manufacturing (CAM)
	1st	Computer assisted NC part programming for plain turning and step turning

8th	2nd	Computer assisted NC part programming for plain turning and step turning
	3rd	Computer assisted NC part programming for plain turning and step turning
9th	1st	Computer assisted robot programming
	2nd	Computer aided process planning (CAPP)
	3rd	Computer aided material requirements planning (MRP)
10th	1st	Computer aided material requirements planning (MRP)
	2nd	Computer aided production scheduling
	3rd	Computer aided production scheduling
11th	1st	Computer aided inspection planning
	2nd	Computer aided inspection planning
	3rd	Computer aided inventory planning
12th	1st	Computer aided inventory planning
	2nd	Flexible manufacturing system (FMS)
	3rd	Flexible manufacturing system (FMS)
13th	1st	Concept of flexible manufacturing.
	2nd	Concept of flexible manufacturing.
	3rd	Integrating NC machines
14th	1st	Robots, AGVs, and other NC equipment
	2nd	Computer aided quality control
	3rd	Business functions
15th	1st	Computer aided forecasting
	2nd	Office automation
	3rd	Revision

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