



# Orissa School of Mining Engineering Keonjhar

## Department of Mechanical Engineering

Subject: <b>Industrial Engineering &amp; Management</b>			
Discipline: <b>Mechanical Engineering</b>		Name of the Faculty: <b>Dr Niharika Mohanta</b>	
Course Code:	Th I	Semester:	6th
Total Periods:	4P/W	Examination:	2026 SUMMER
Theory Periods:	4P/W	Class Test:	20
Maximum Marks:	100	End Semester Examination:	80

Lesson Plan w.e.f 22.12.2025 TO 18.04.2026

Week	Availab ility of classes	Class Day	Theory Topics
1 <sup>st</sup>	04	22/12/2025	<b>1.Plant Engineering</b> 1.1 selection of Site of Industry. Describing the features governing plant location.
		22/12/2025	1.2 Plant layout: Definition,1.3 Describe the objective and principles of plant layout
		23/12/2025	1.4 Product Layout: Definition ,Description, advantage ,disadvantage Process Layout: Definition ,Description, advantage, disadvantage
		23/12/2025	Combination layout: Definition ,Description, advantage disadvantage
2 <sup>nd</sup>	04	29/12/2025	1.5 Techniques for improvement plant layout.
		29/12/2025	1.6 Principles of material handling equipment.
		30/12/2025	1.7 Plant maintenance: Objectives of plant maintenance,1.7.1 Importance of plant maintenance
		30/12/2025	1.7.2 Types of maintenance, Breakdown maintenance 1.7.3 Preventive maintenance
3 <sup>rd</sup>	04	05/01/2026	1.7.4 Scheduled maintenance, Predictive maintenance
		05/01/2026	Topic end, Question answer discussion, Assignment 1
		06/01/2026	<b>2.Operations Research:</b> <b>2.1</b> Introduction to Operations Research and its applications
		06/01/2026	2.2Define Linear Programming Problem
4 <sup>th</sup>	04	12/01/2026	2.3 Solution of L.P.P. by graphical method
		12/01/2026	Numerical problems related to L.P.P.
		13/01/2026	2.4 Evaluation of Project completion time by CriticalPathmethodCPM
		13/01/2026	Numerical problems related to CPM
5 <sup>th</sup>	04	19/01/2026	<b>Class test</b>
		19/01/2026	Program Evaluation and Review Technique(PERT) Method
		20/01/2026	Numerical problems related to PERT
		20/01/2026	2.5 Distinct features of PERT with respect to CPM
6 <sup>th</sup>	02	27/01/2026	Topic end, Question answer discussion, Assignment 2
		27/01/2026	<b>3 Inventory Control: 3.1</b> Classification of inventory
7 <sup>th</sup>	04	02/02/2026	3.2 Objective of inventory control. 3.3 Describe the functions of inventories.
		02/02/2026	3.4 Benefits of inventory control

			3.5 Costs associated with inventory
		03/02/2026	3.6 Terminology in inventory control
		03/02/2026	3.7 What is Economic Order Quantity(EOQ),Derive Economic Order Quantity(EOQ) for Basic model
8 <sup>th</sup>	04	9/02/2026	Numerical problems related to EOQ
		9/02/2026	3.8 Define and Explain ABC analysis. Assignment 3
		10/02/2026	Revision
		10/02/2026	CLASS TEST
9 <sup>th</sup>	04	16/02/2026	<b>4. Inspection and Quality Control: 4.1</b> Define Inspection and Quality control 4.2 Describe planning of inspection(method).
		16/02/2026	4.3 Types of inspection(Explanation)
		17/02/2026	4.4 Advantages and disadvantages of quality control. 4.5 factors influencing the quality of manufacture
		17/02/2026	4.6 Concept of statistical quality control(SQC),
10 <sup>th</sup>	04	23/02/2026	Control charts (X, R, P and C - charts) (Concepts and significance)
		23/02/2026	Numerical problems related to Control charts 4.7 Methods of attributes.
		24/02/2026	4.8 Concept of ISO 9001-2008.
		24/02/2026	4.9.1 Quality management system, Registration /certification procedure.
11 <sup>th</sup>	02	02/03/2026	4.9.2 Benefits of ISO to the organization.
		02/03/2026	4.9.3 Just In Time (JIT) method, : Concept, Benefits, implementation areas, advantages ,current applications
12 <sup>th</sup>	04	09/03/2026	Revision
		09/03/2026	INTERNAL ASSESMENT
		10/03/2026	INTERNAL ASSESMENT
		10/03/2026	INTERNAL ASSESMENT
13 <sup>th</sup>	04	16/03/2026	Six Sigma Technique
		16/03/2026	7S Technique, Lean manufacturing
		17/03/2026	4.9.4 Numerical problems .Topic end, Question answer discussion,
		17/03/2026	<b>Numerical problems .Topic end, Question answer discussion, ASSIGNMENT 04</b>
14 <sup>th</sup>	03	23/03/2026	<b>5. Production Planning And Control: 5.1</b> Introduction
		23/03/2026	5.2 Major functions of production planning and control
		24/03/2026	5.3 Methods of forecasting5.3.1 Routing
		24/03/2026	5.3.2 Scheduling
15 <sup>th</sup>	04	30/03/2026	5.3.3 Dispatching
		30/03/2026	5.3.4 Controlling
		31/03/2026	5.4 Types of production5.4.1 Mass production, 5.4.2 Batch production,5.4.3 Job order production
		31/03/2026	5.5 Principles of product and process planning
16 <sup>th</sup>	04	06/04/2026	Topic end, Question answer discussion, Assignment 5
		06/04/2026	Revision.
		07/04/2026	Revision.
		07/04/2026	CLASS TEST
17 <sup>th</sup>	02	13/04/2026	VST
		13/04/2026	VST

*M. Mohanta*  
Prepared by  
22/12/26

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