MECHANICAL ENGINEERING

SEMESTER : 5th (SEC-A)

FROM :01/07/2026 **TO :**05/11/2026

NAME OF THE FACULTY : Er. PRADIP KUMAR BARIK

SUBJECT : INDUSTRIAL ENGINEERING AND MANAGEMENT

TOTAL CLASS AVAILABLE IN SEMESTER: 45 nos

NO. OF PERIODS : 03/ WEEK

Class	Unit	Topic	Method	Outcome
1	I	Introduction to Plant Engineering	Lecture	Understand plant systems
2	I	Selection of Site for Industry	Case study	Identify site factors
3	I	Plant Layout Basics	Lecture	Understand layout types
4	I	Types of Layout: Process, Product, Fixed	Diagram	Differentiate layouts
5	I	Principles of Good Plant Layout	Lecture	Apply layout principles
6	I	Material Handling Principles	Lecture	Understand handling systems
7	I	Equipment for Material Handling	Charts	Identify equipment
8	I	Plant Maintenance Types	Lecture	Understand maintenance
9	I	Breakdown Maintenance	Lecture	Explain failure maintenance
10	I	Preventive & Scheduled Maintenance	Lecture	Compare maintenance types
11	I	Industrial Safety Importance	Lecture	Understand safety role
12	I	Causes & Cost of Accidents	Case study	Analyze accidents
13	I	Accident Prevention Techniques	Lecture	Apply safety methods
14	I	Industrial Disputes & Settlement	Lecture	Understand dispute handling
15	I	Unit Test I	Test	Evaluate Unit I
16	II	Productivity & Living Standards	Lecture	Understand productivity
17	II	Methods to Improve Productivity	Discussion	Apply productivity methods
18	II	Work Study Introduction	Lecture	Understand work study
19	II	Method Study Basics	Lecture	Learn method analysis
20	II	Operation Process Chart	Diagram	Analyze operations
21	II	Flow Process Chart	Diagram	Study workflow
22	II	Two-Handed Chart	Demonstration	Analyze manual work
23	II	Man-Machine Chart	Diagram	Understand machine time
24	II	String & Flow Diagram	Practical	Visualize movement

Class	Unit	Topic	Method	Outcome
[illegible]	II	Work Measurement Basics	Lecture	Understand time study
[illegible]	II	Time Study Procedure	Numerical	Apply time study
[illegible]	II	Rating Factor & Allowances	Lecture	Calculate standard time
[illegible]	II	Standard Time Calculation	Numerical	Solve problems
[illegible]	II	Ratio Delay Study & PMTS	Lecture	Understand work measurement
30	II	Unit Test II	Test	Evaluate Unit II
31	III	Production Planning & Control Intro	Lecture	Understand PPC
32	III	Functions of PPC	Lecture	Learn PPC roles
33	III	Forecasting Methods	Numerical	Predict demand
34	III	Routing & Scheduling	Lecture	Plan production
35	III	Dispatching & Control	Lecture	Understand execution
36	III	CPM Introduction	Diagram	Learn network analysis
[illegible]	III	Production Types	Lecture	Differentiate production systems
38	III	Economic Batch Quantity	Numerical	Solve EBQ
39	III	Make or Buy Decision	Case study	Analyze decisions
40	III	Unit Test III	Test	Evaluate Unit III
41	IV	Principles of Management	Lecture	Understand management basics
42	IV	Taylor & Fayol Principles	Lecture	Compare management theories
43	IV	Leadership & Motivation	Discussion	Understand leadership styles
44	IV	Modern Management Tools (TQM, JIT, 5S)	Lecture	Apply modern concepts
45	V	Financial & Material Management Overview	Lecture	Understand finance basics

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Sign of Faculty

Sign of HOD

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