

B.Tech 5th Semester (Mechanical Engineering)

Lesson Plan: Industrial Engineering (PEC-ME-505/21)

S.N.	Content to be Covered	Lecture No.
UNIT 1		
1	History and Introduction of Industrial Engineering ¹	1
2	Aim and Generalized Model of Production System ²	2
3	Types of Production Systems ³	3
4	Plant Location ⁴	4
5	Plant Layout ⁵	5
6	Productivity and Industry 4.0 ⁶	6
UNIT 2		
7	Introduction to Costs ⁷	7
8	Costing Methods ⁸	8
9	Cost Control and Variance Analysis ⁹	9
10	Break-even Analysis ¹⁰	10
11	ISO Standards and MFCA ¹¹	11
12	Lean Manufacturing ¹²	12
UNIT 3		
13	Introduction and Objectives of Work Study ¹³	13
14	Method Study ¹⁴	14
15	Principles of Motion Economy ¹⁵	15
16	Work Study Charts and THERBLIGS ¹⁶	16
17	Work Measurement and Time Study ¹⁷	17
18	PMTS and Work Sampling ¹⁸	18
UNIT 4		
19	Introduction and Importance of Materials Management ¹⁹	19
20	Relevant Costs in Inventory ²⁰	20
21	Inventory Control Models (EOQ & EBQ) ²¹	21
22	Inventory Control Systems (P, Q, Ss) ²²	22
23	Selective Inventory Control Techniques (ABC, VED, etc.) ²³	23
24	Supply Chain Management (SCM) ²⁴	24
UNIT 5		
25	Introduction and Importance of Forecasting ²⁵	25
26	Classification and Types of Forecasting ²⁶	26

27	Forecasting Methods and Techniques ²⁷	27
28	Forecast Errors ²⁸	28
29	Costs and Accuracy of Forecasts ²⁹	29
30	Numerical Problems on Forecasting ³⁰	30
	UNIT 6	
31	Introduction and Objectives of PPC ³¹	31
32	Aggregate Planning ³²	32
33	Master Production Schedule (MPS) ³³	33
34	Scheduling and Gantt Charts ³⁴	34
35	Sequencing (Johnson's Algorithm) ³⁵	35
36	Quality and Inventory Turnover Ratio ³⁶	36