

LESSON PLAN FOR ACADEMIC SESSION 2025-26 (Summer)

<b>Discipline:</b> Mechanical Engineering	<b>Semester:</b> 6Th	<b>Name of the Teaching Faculty:</b> Dinesh Kumar Sahu
<b>Subject:</b> TH1:Industrial engineering & management	<b>No of days/ week class allotted:</b> 04	<b>Semester From:</b> 22/12/2025 to 18/04/2026 <b>Nos of weeks per semester :</b> 15
<b>Week</b>	<b>Class Day</b>	<b>Theory Topics</b>
1st	1st	<b>1. Plant Engineering:</b> Selection of Site of Industry.
	2 <sup>nd</sup>	Define plant layout.
	3 <sup>rd</sup>	Describe the objective and principles of plant layout.
	4 <sup>th</sup>	Explain Process Layout, Product Layout and Combination Layout.
2nd	1st	Techniques to improve layout.
	2 <sup>nd</sup>	Principles of material handling equipment.
	3 <sup>rd</sup>	Plant maintenance
	4 <sup>th</sup>	Importance of plant maintenance.
3 <sup>rd</sup>	1 <sup>st</sup>	Break down maintenance.
	2 <sup>nd</sup>	Preventive maintenance. Scheduled maintenance.
	3 <sup>rd</sup>	<b>Operations research:</b> Introduction to Operations Research and its applications.
	4 <sup>th</sup>	
4th	1st	Define Linear Programming Problem
	2 <sup>nd</sup>	Solution of L.P.P. by graphical method.
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
5th	1 <sup>st</sup>	Evaluation of Project completion time by Critical Path Method and PERT (Simple problems)
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	Explain distinct features of PERT with respect to CPM.
	4 <sup>th</sup>	
6th	1 <sup>st</sup>	<b>3. INVENTORY CONTROL:</b> Classification of inventory.
	2 <sup>nd</sup>	Objective of inventory control.
	3 <sup>rd</sup>	Describe the functions of inventories.
	4 <sup>th</sup>	Benefits of inventory control.
7th	1 <sup>st</sup>	Costs associated with inventory.
	2 <sup>nd</sup>	Terminology in inventory control
	3 <sup>rd</sup>	Explain and Derive economic order quantity for Basic model. (Solve numerical)
	4 <sup>th</sup>	
8th	1 <sup>st</sup>	Define and Explain ABC analysis.
	2 <sup>nd</sup>	<b>4. INSPECTION AND QUALITY CONTROL:</b> Define Inspection and Quality control.
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
9th	1 <sup>st</sup>	Describe types of inspection.
	2 <sup>nd</sup>	Advantages and disadvantages of quality control.
	3 <sup>rd</sup>	Study of factors influencing the quality of manufacture.
	4 <sup>th</sup>	Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts).
10th	1 <sup>st</sup>	Quality management system, Registration /certification procedure.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
11th	1 <sup>st</sup>	Benefits of ISO to the organization.

	2 <sup>nd</sup>	JIT, Six sigma, 7S, Lean manufacturing
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
12th	2 <sup>nd</sup>	<b>5.0 PRODUCTION PLANNING AND CONTROL</b> Introduction
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
13th	2 <sup>nd</sup>	Major functions of production planning and control
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
14th	2 <sup>nd</sup>	Methods of forecasting
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
15th	2 <sup>nd</sup>	Routing
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
16th	2 <sup>nd</sup>	Scheduling
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
17th	2 <sup>nd</sup>	Dispatching
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
18th	2 <sup>nd</sup>	Controlling
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
19th	2 <sup>nd</sup>	Types of production
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
20th	2 <sup>nd</sup>	Mass production
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
21st	2 <sup>nd</sup>	Batch production
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
22nd	2 <sup>nd</sup>	Job order production
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
23rd	2 <sup>nd</sup>	Principles of product and process planning.
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	
24th	2 <sup>nd</sup>	Revision
	3 <sup>rd</sup>	
	4 <sup>th</sup>	
	1 <sup>st</sup>	

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