

# LESSON PLAN

SUB: IE&M

BRANCH:- MECHANICAL ENGG.

SEMESTER: 6TH

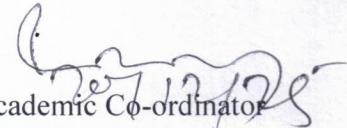
NAME OF FACULTY: ER.SAGAR KUMAR BEHERA

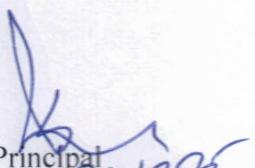


**GOVERNMENT POLYTECHNIC,  
BHADRAK**

**SESSION:2025-26**

  
Hod ,Mechanical

  
Academic Co-ordinator

  
Principal  
Govt. Polytechnic, Bhadrak

<b>Discipline:</b> <b>MECHANICAL</b>	<b>Semester:</b> <b>6th</b>	<b>Name of the Teaching Faculty</b> <b>Sagar Kumar Behera</b> <b>Lecturer (Stage-II), Mechanical Engineering</b>
<b>Subject:</b> <b>INDUSTRIAL ENGINEERING &amp; MANAGEMENT (TH:1)</b>	<b>No. of days/ per week class allotted:</b> <b>4</b>	<b>Semester From date:</b> <b>22/12/2025 To date: 18-04-26</b> <b>No of weeks: 15</b>
<b>Week</b>	<b>Class Day</b>	<b>Theory Topics:</b>
<b>1<sup>st</sup></b>	<b>1<sup>st</sup></b>	Selection of Site of Industry
	<b>2<sup>nd</sup></b>	Define plant layout
	<b>3<sup>rd</sup></b>	Describe the objective and principles of plant layout
	<b>4<sup>th</sup></b>	Explain Process Layout, Product Layout
<b>2<sup>nd</sup></b>	<b>1<sup>st</sup></b>	Explain Combination Layout, Techniques to improve layout
	<b>2<sup>nd</sup></b>	Principles of material handling equipment
	<b>3<sup>rd</sup></b>	Plant maintenance, Importance of plant maintenance
	<b>4<sup>th</sup></b>	Break down maintenance
<b>3<sup>rd</sup></b>	<b>1<sup>st</sup></b>	Preventive maintenance
	<b>2<sup>nd</sup></b>	Scheduled maintenance
	<b>3<sup>rd</sup></b>	Introduction to Operations Research and its applications
	<b>4<sup>th</sup></b>	Define Linear Programming Problem
<b>4<sup>th</sup></b>	<b>1<sup>st</sup></b>	Solution of L.P.P. by graphical method
	<b>2<sup>nd</sup></b>	Solution of L.P.P. by graphical method
	<b>3<sup>rd</sup></b>	Evaluation of Project completion time by Critical Path Method
	<b>4<sup>th</sup></b>	Evaluation of Project completion time by Critical Path Method
<b>5<sup>th</sup></b>	<b>1<sup>st</sup></b>	Evaluation of Project completion time by PERT
	<b>2<sup>nd</sup></b>	Evaluation of Project completion time by PERT
	<b>3<sup>rd</sup></b>	Explain distinct features of PERT with respect to CPM.
	<b>4<sup>th</sup></b>	Classification of inventory.



6 <sup>th</sup>	1 <sup>st</sup>	Objective of inventory control.
	2 <sup>nd</sup>	Describe the functions of inventories.
	3 <sup>rd</sup>	Benefits of inventory control.
	4 <sup>th</sup>	Costs associated with inventory.
7 <sup>th</sup>	1 <sup>st</sup>	Terminology in inventory control
	2 <sup>nd</sup>	Explain and derive economic order quantity for Basic model
	3 <sup>rd</sup>	Solving Numerical
	4 <sup>th</sup>	Define and Explain ABC analysis.
8 <sup>th</sup>	1 <sup>st</sup>	Define Inspection and Quality control. Describe planning of inspection.
	2 <sup>nd</sup>	Describe types of inspection.
	3 <sup>rd</sup>	Advantages and disadvantages of quality control.
	4 <sup>th</sup>	Study of factors influencing the quality of manufacture.
9 <sup>th</sup>	1 <sup>st</sup>	Explain the Concept of statistical quality control, Control charts X
	2 <sup>nd</sup>	Control charts R
	3 <sup>rd</sup>	Control charts (P and C – charts)
	4 <sup>th</sup>	Methods of attributes. Concept of ISO 9001-2008.
10 <sup>th</sup>	1 <sup>st</sup>	Quality management system, Registration /certification procedure.
	2 <sup>nd</sup>	Benefits of ISO to the organization
	3 <sup>rd</sup>	Concept of JIT
	4 <sup>th</sup>	Concept of Six sigma



11 <sup>th</sup>	1 <sup>st</sup>	Concept of 7S
	2 <sup>nd</sup>	Concept of Lean manufacturing
	3 <sup>rd</sup>	Introduction to production planning and control
	4 <sup>th</sup>	Major functions of production planning and control
12 <sup>th</sup>	1 <sup>st</sup>	Methods of forecasting
	2 <sup>nd</sup>	Different types of forecasting
	3 <sup>rd</sup>	Concept of Routing, Scheduling
	4 <sup>th</sup>	Concept of Dispatching
13 <sup>th</sup>	1 <sup>st</sup>	Concept of Controlling
	2 <sup>nd</sup>	Types of production
	3 <sup>rd</sup>	Concept of Mass production
	4 <sup>th</sup>	Concept of Batch production
14 <sup>th</sup>	1 <sup>st</sup>	Concept of Job order production
	2 <sup>nd</sup>	Principles of product and process planning.
	3 <sup>rd</sup>	Revision of unit -I
	4 <sup>th</sup>	Revision of unit -II
15 <sup>th</sup>	1 <sup>st</sup>	Revision of unit -III
	2 <sup>nd</sup>	Revision of unit -IV
	3 <sup>rd</sup>	Revision of unit -V
	4 <sup>th</sup>	PYQ Discussion

*behera  
30/12/2025*

Sagar kumar behera  
Lecturer (Stage-II)