GOVERNMENT POLYTECHNIC JAJPUR		
DEPARTMENT OF MECHANICAL ENGINEERING		
LESSON PLAN(INDUSTRIAL ENGINEERING AND MANAGEMENT)		
Discipline: Mechanical	**Semester: 5th**	**Name of the Teaching faculty: VYJAINTIO KUMAR RAY. HOD, MECH**
Subject: Industrial Engg. And Management	**No of Days/Week class alloted: 4**	**Semester from Date: 04/02/2025 To Date: 17/05/2025** **No of weeks: 15**
Week	**Class Day**	**Topics**
1st	1st	Introduction to industrial engineering and management
	2nd	Importance of this subjects, Cos
	3rd	Syllabus description of each module
	4th	Discussion about lesson plan, examination and assignments
2nd	1st	Selection of Site for a Industry
	2nd	Concept of plant layout and
	3rd	Objectives of plant layout according to sectors
	4th	Principles of plant layout.
3rd	1st	Explaining Process Layout
	2nd	Explaning Product Layout
	3rd	Explaining Combination Layout.
	4th	Techniques to improve layout
4th	1st	Principles of material handling equipment
	2nd	Need of maintenance.
	3rd	Importance of plant maintenance.
	4th	Break down maintenance
5th	1st	Preventive maintenance
	2nd	Scheduled maintenance
	3rd	Introduction to Operations Research and its applications,Define Linear Programming Problem and its applications
	4th	Solution of L.P.P. by graphical method.
6th	1st	Evaluation of Project completion time by Critical Path Method
	2nd	Evaluation of Project completion time PERT
	3rd	problems on PERT and CPM
	4th	Explain distinct features of PERT with respect to CPM.
7th	1st	Class test - 1
	2nd	Introduction to inventory control in a business
	3rd	Classification of inventory.
	4th	Objective of inventory control.
8th	1st	Describe the functions of inventories
	2nd	Benefits of inventory control
	3rd	Costs associated with inventory.
	4th	Terminology in inventory control
9th	1st	Explain and Derive economic order quantity for Basic model. (Solve numerical)
	2nd	Define and Explain ABC analysis.

	3rd	introduction to Inspection and Quality control.
	4th	Describe planning of inspection.
10th	1st	Describe types of inspection.
	2nd	Advantages and disadvantages of quality control.
	3rd	Study of factors influencing the quality of manufacture
	4th	Explain the Concept of statistical quality control
11th	1st	Concept of Control charts (X - chart) with problem
	2nd	Concept Control charts (R- chart) with problem
	3rd	Concept Control chart (p - chart) with problem
	4th	Concept Control chart(C - chart) with problem
12th	1st	Concept of ISO 9001-2008.
	2nd	Quality management system, Registration /certification procedure
	3rd	Benefits of ISO to the organization.
	4th	JIT, Six sigma,7S, Lean manufacturing
13th	1st	7S, Lean manufacturing
	2nd	Introduction to Production planning and control
	3rd	Major functions of production planning and control
	4th	Methods of forecasting
14th	1st	Concept of Routing and it's benefit
	2nd	Concept of Scheduling and it's benefit
	3rd	Concept of dispatching and it's benefit
	4th	Concept Controlling in an industry for smooth operation
15th	1st	Types of production Mass production
	2nd	Job order production,Batch production
	3rd	Principles of product and process planning
	4th	Class test - 2

Sl. No.	*Name of Authors*	*Title of the Book*	*Name of the Publisher*
1	Saeed B. Niku	Introduction to Robotics: Analysis, Systems, Applications	Pearson Education Inc.New DELHI 2006
2	M.P. Groover	Industrial Robotics: Technology, Programming and Applications	Tata Mc Graw Hill Co,2001
3	Fu K S Gonzalz R Cand Lee C S G	Robotics control,sensing,visionand intelligence	1. Mc-Graw Hill Book Co, 1987
4	Ganesh S. Hedge	A Text book on Industrial Robotics	1. , Laxmi Publications Pvt. Ltd., New Delhi
5	S.R. Deb & Sankha Deb	Robotics Technology and Flexible Automation Robot	1. Tata McGraw-Hill, 2010.

Faculty Signature

(V. K. Ray)

HOD (Mech.)