



**GOVERNMENT POLYTECHNIC, NABARANGPUR**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

Discipline: <b>MECHANICAL ENGG</b>	Semester: <b>6<sup>TH</sup></b>	Name of the Teaching Faculty: DEEPAK RANJAN PATTNAIK
Subject: <b>INDUSTRIAL ENGG. &amp; MANAGEMENT</b>	No. of days/per week class allotted: 4	Semester From date: _____ To Date: _____  No. of Weeks: _____
<b>COURSE OUTCOMES</b>	<b>CO1:</b> UNDERSTAND THE BASIC CONCEPT ABOUT PLANT SETUP & MACHINES. <b>CO2:</b> OPTIMIZING RESOURCE UTILIZATIONS & IMPROVING PRODUCTIVITY. <b>CO3:</b> UNDERSTAND STOCK MANAGEMENT & MAINTENANCE OF PLANT. <b>CO4:</b> USE CHARTS TO RECORD THE QUALITY OF PRODUCTS. <b>CO5:</b> HOW TO ELIMINATE UNPRODUCTIVE ACTIVITIES & UNDERSTANDING DESIGN OF PRODUCTS & PROCESSES.	
<b>Week</b>	<b>Class Day</b>	<b>Theory/Practical Topics</b>
1 <sup>ST</sup>	1 <sup>ST</sup>	SELECTION OF INDUSTRY SITE, PLANT LAYOUT-OBJ. & PRINCIPLES
	2 <sup>ND</sup>	EXPLAIN PROCESS, PRODUCT & COMBINATION LAYOUT
	3 <sup>RD</sup>	TECHNIQUES TO IMPROVE LAYOUT
	4 <sup>TH</sup>	PRINCIPLES OF MATERIAL HANDLING EQUIPMENT
2 <sup>ND</sup>	1 <sup>ST</sup>	PLANT MAINTENANCE
	2 <sup>ND</sup>	PLANT MAINTENANCE (CONTD...)
	3 <sup>RD</sup>	IMPORTANCE OF PLANT MAINTENANCE
	4 <sup>TH</sup>	BREAKDOWN MAINTENANCE
3 <sup>RD</sup>	1 <sup>ST</sup>	PREVENTIVE MAINTENANCE & SCHEDULED MAINTENANCE
	2 <sup>ND</sup>	QUIZ & ASSIGNMENT - 1
	3 <sup>RD</sup>	INTRODUCTION TO OPERATIONS RESEARCH & ITS APPLICATIONS
	4 <sup>TH</sup>	DEFINE LINEAR PROGRAMMING PROBELM
4 <sup>TH</sup>	1 <sup>ST</sup>	SOLUTION OF LPP BY GRAPHICAL METHOD
	2 <sup>ND</sup>	SOLUTION OF LPP BY GRAPHICAL METHOD (CONTD...)
	3 <sup>RD</sup>	EVALUATION OF PROJECT COMPLETION TIME BY CPM & PERT
	4 <sup>TH</sup>	EVALUATION OF PROJECT COMPLETION TIME BY CPM & PERT (CONTD...)
5 <sup>TH</sup>	1 <sup>ST</sup>	EXPLAIN DISTINCT FEATURES OF PERT W.R.T CPM
	2 <sup>ND</sup>	EXPLAIN DISTINCT FEATURES OF PERT W.R.T CPM
	3 <sup>RD</sup>	REVISION
	4 <sup>TH</sup>	QUIZ & ASSIGNMENT - II
6 <sup>TH</sup>	1 <sup>ST</sup>	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
7 <sup>TH</sup>	1 <sup>ST</sup>	COSTS ASSOCIATED WITH INVENTORY
	2 <sup>ND</sup>	TERMINOLOGY IN INVENTORY CONTROL
	3 <sup>RD</sup>	EXPLAIN & DERIVE ECONOMIC ORDER QUANTITY (EOQ)
	4 <sup>TH</sup>	EXPLAIN & DERIVE EOQ FOR BASIC MODEL (CONTD...)
8 <sup>TH</sup>	1 <sup>ST</sup>	DEFINE & EXPLAIN ABC ANALYSIS
	2 <sup>ND</sup>	QUIZ & ASSIGNMENT - III
	3 <sup>RD</sup>	DEFINE INSPECTION & QUALITY CONTROL
	4 <sup>TH</sup>	DESCRIBE PLANNING OF INSPECTION

9 <sup>TH</sup>	1 <sup>ST</sup>	DESCRIBE TYPES OF INSPECTION
	2 <sup>ND</sup>	ADVANTAGES & DISADVANTAGES OF QUALITY CONTROL
	3 <sup>RD</sup>	STUDY OF FACTORS INFLUENCNG QUALITY OF MANUFACTURE
	4 <sup>TH</sup>	EXPLAIN STATISTICAL QUALITY CONTROL, CONTROL CHARTS
10 <sup>TH</sup>	1 <sup>ST</sup>	CONTROL CHARTS (X, R, P & C CHARTS) (CONTD...)
	2 <sup>ND</sup>	METHOD OF ATTRIBUTES
	3 <sup>RD</sup>	CONCEPT OF ISO 9001 - 2008
	4 <sup>TH</sup>	QUALITY MANAGEMENT SYSTEM
11 <sup>TH</sup>	1 <sup>ST</sup>	REGISTRATION/CERTIFICATION PROCEDURE
	2 <sup>ND</sup>	BENEFITS OF ISO TO THE ORGANISATION
	3 <sup>RD</sup>	JIT, 6 SIGMA, 7S, LEAN MANUFACTURING
	4 <sup>TH</sup>	NUMERICALS
12 <sup>TH</sup>	1 <sup>ST</sup>	QUIZ & ASSIGNMENT - IV
	2 <sup>ND</sup>	INTRODUCTION OF PRODUCTION PLANNING & CONTROL
	3 <sup>RD</sup>	MAJOR FUNCTIONS OF PRODUCTION PLANNING & CONTROL
	4 <sup>TH</sup>	METHODS OF FORECASTING
13 <sup>TH</sup>	1 <sup>ST</sup>	ROUTING
	2 <sup>ND</sup>	SCHEDULING
	3 <sup>RD</sup>	DISPATCHING
	4 <sup>TH</sup>	CONTROLLING
14 <sup>TH</sup>	1 <sup>ST</sup>	TYPES OF PRODUCTION
	2 <sup>ND</sup>	MASS PRODUCTION
	3 <sup>RD</sup>	BATCH PRODUCTION
	4 <sup>TH</sup>	JOB ORDER PRODUCTION
15 <sup>TH</sup>	1 <sup>ST</sup>	PRINCIPLES OF PRODUCT & PROCESS PLANNING
	2 <sup>ND</sup>	QUIZ & ASSIGNMENT - V
	3 <sup>RD</sup>	REVISION
	4 <sup>TH</sup>	REVISION

**LEARNING RESOURCES:**

**INDUSTRIAL ENGINEERING & MANAGEMENT, O.P KHANNA, DHANPAT RAI & SONS.**

**INDUSTRIAL ENGINEERING & PRODUCTION MANAGEMENT, MART & TELSANG, S.CHAND**

**STATISTICAL QUALITY CONTROL, M. MAHAJAN, DHANPAT RAI & SONS**

**WEBSITE RESOURCES:**

Sign. Of Faculty  
concerned

Sign. Of HOD I/C

Principal