

**“PVCNSSK” GOVT. POLYTECHNIC BILASPUR at KALOL  
PLANNED THEORY SYLLABUS COVERAGE**

PTSC-7.1

<b>GPB</b>		Department: <i>Mechanical</i> Engg. Subject:- Production Planning & Control				
		Sem. & Branch 6 <sup>th</sup> ME Duration: 3year				
<b>SYLLABUS COVERAGE</b>		Total Periods:- 56 Theory : 56 Practical -----				
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommendation	Remarks
1.	1-5	Production Planning and Control	1.1 Types of production. - Job, batch and mass production 1.2 Concept of planning, scheduling, routing, dispatching and follow up 1.3 Break even analysis and Gantt chart	-Industrial Engineering and Management by T.R. Banga and SC Sharma; Khanna Publishers, Delhi		
2	6-12	Plant Location and Layout	2.1 Definition 2.2 Factors affecting the site selection of plant 2.3 Factors affecting plant layout 2.4 Types of layout - Process, product, combination and fixed position, layout patterns 2.5 Techniques of making layout - Flow diagram, templates, distance volume matrix, travel chart			
3	13-23	Work Study	3.1 Definition, advantages and procedure of Work study 3.2 Difference between production and Productivity, measures to improve productivity. 3.3 Method study - Definition, Objectives and Procedure 3.4 Symbols, Flow process chart, Flow diagram, Machine chart, Two hand chart. 3.5 Principles of motion economy, Therblig symbols, Simo chart 3.6 Work Measurement - Time study, definition, principle and method of time study 3.7 Stop watch study - Number of readings, calculation of basic time, rating techniques, normal time, allowance, standard time.	- Industrial Engineering and Management by O.P. Khanna; Dhanpat Rai and Sons, New Delhi		
4	24-32	Inventory Control	4.1 Material purchasing, store keeping, functions and duties of store department. 4.2 Definition of inventory, Types of inventory 4.3 ABC analysis 4.4 Procurement cost, carrying charges, lead-time, reorder point, Economic ordering quantity, simple numerical problems. 4.5 Codification and standardization 4.6 Concept of JIT	- Production Management by C.L. Mahajan; Satya Parkashan Company Limited, New Delhi		

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5	33-39	Inspection and Quality Control	5.1 Inspection needs, types of inspection, stages of inspection 5.2 Statistical quality control 5.3 Process capability 5.4 Control charts for variables – X and R chart, control chart for fraction defectives (P chart), control chart for number of defects (C chart) 5.5 Concept of ISO 9000, ISO 14000 and TQM. 5.6 QC tools	-Mechanical Costing, Estimation and Project Planning by CK Singh; Standard Publishers, New Delhi		
6	40-45	Material Handling	6.1 Principles of material handling 6.2 Hoisting equipment - Fork lift truck, cranes 6.3 Conveying equipment - Package conveyor, gravity roller conveyors, screw conveyors, flight or scraper conveyors, bucket conveyors, bucket elevators, belt conveyors, and pneumatic conveyors. 6.4 Work station design			
7	46-50	Repair and maintenance (07hrs)	7.1 Objectives and importance of maintenance 7.2 Different types of maintenance 7.3 Nature of maintenance problem 7.4 Range of maintenance activities 7.5 Procedure of preventive maintenance 7.6 Schedules of preventive maintenance 7.7 Advantages of preventive maintenance	- A Text Book of Reliability and Maintenance Engineering by A Manna, Prentice Hall of India.		
8	51-56	Cost estimation and control	8.1 Functions of cost estimation 8.2 Estimation procedure 8.3 Elements of cost, ladder of costs 8.4 Depreciation-concept and methods of calculating depreciation 8.5 Overhead expanses 8.6 Cost control - capital cost control (planning and scheduling) operating cost control.			

APPROVED	SIGN HOD/OIC
DATE <u>13/02/23.</u>	<u>Cherns</u>