



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B.Voc.), 6th Semester
Branch: Production Technology
Subject Name: Production Planning & Control
Subject Code: 21160302

Type of course: Core

Prerequisite: Zeal to learn the subject

Rationale: To provide students with essential knowledge and skills that are fundamental to effective operations management in manufacturing industries.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical		
			C	ESE (E)	PA(M)	ESE (V)	PA (I)	
3	0	0	3	50	0	0	0	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

Sr. No.	Content	Total Hrs.	Module % Weightage
01	Introduction to Production Planning and Control Definition and importance, objectives of Production Planning and Control (PPC), basics of production systems, role in manufacturing and service industries, factors affecting PPC.	4	10
02	Demand Forecasting Introduction, components of forecasting demand, approaches to forecasting: forecasts based on judgment and opinion, forecasting method, selection of forecasting technique, forecast accuracy and error measurement, numerical based on naive, simple moving average, and exponential smoothing method.	15	35
03	Capacity Planning Defining and measuring capacity, capacity types (design, effective, and actual), capacity planning strategies, aggregate planning, resource allocation and leveling, steps in capacity planning process, determining capacity requirements, capacity alternatives, evaluation of alternatives; cost-volume analysis	8	20
04	Production Scheduling and Sequencing Sequencing rules and algorithms, priority rules, sequencing methods, sequencing jobs through two work centers, scheduling techniques, gantt charts, shop floor control	15	35
	Total	42	100



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Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	20	-	-	-

R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Course Outcomes:

Sr. No.	CO Statement	Marks % Weightage
CO 1	To understand basic concept of production planning and control	10
CO 2	To understand and solve forecasting problem by applying different techniques	35
CO 3	To enable students to understand, analyze, and effectively manage capacity.	20
CO 4	To apply various shop floor planning, scheduling and production control techniques.	35

Reference Books:

- 1) Production, Planning and Control & Industrial Management, K. C. Jain, L. N. Agarwal, khanna publication.
- 2) Production Planning And Control by M. Mahajan, Dhanpat Rai & Co.
- 3) Production Planning & Control by R.K. Singal, Katson Books.

List of Open Source Software/learning website:

www.nptel.ac.in