

**GUJARAT TECHNOLOGICAL UNIVERSITY****Syllabus for Bachelor of Vocation (B.Voc), 6<sup>th</sup> Semester****Branch: Production Technology****Subject Name: Production Planning & Control****Subject Code: 1160302****With effective  
from academic  
year 2018-19****Type of course:** Engineering Science**Prerequisite:** Zeal to learn the subject

**Rationale:** The course consists of the core wealth creation processes of a business and helps an organization to efficiently achieve its mission while constantly increasing productivity and quality. This course focuses on the role of planning & control as a strategic element of the total organization. This will cover classic and up to date tools and concepts used to support operational managerial decisions. It is intended to provide a basic background in problems and opportunities encountered by managers in contemporary production and operations management.

**Teaching and Examination Scheme:**

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

Sr. No.	Topic	No. of Hours	Weightage %
01	<b>Demand Forecasting-</b> Introduction, components of forecasting demand, Approaches to forecasting: forecasts based on judgment and opinion, Selection of forecasting technique.	4	15
02	<b>Capacity Planning</b> Defining and measuring capacity, determinants of effective capacity, capacity strategy, steps in capacity planning process, determining capacity requirements, Capacity alternatives, Evaluation of alternatives; Cost-Volume analysis	8	25
03	<b>Facility Location-</b> Need for location decisions, factors affecting location, qualitative and quantitative techniques of location. Facilities layout: Product, Process, Fixed position, combination and cellular layouts; Designing product and process layout, line balancing.	5	15
04	<b>Production Control-</b> Capacity control and priority control, production control functions; Routing, scheduling, dispatching, expediting and follow up, Techniques of production control in job shop production, batch production and mass production systems	6	20
05	<b>Sequencing</b> Priority rules, sequencing methods, sequencing jobs through two work centers, scheduling services, application of CPM and PERT techniques.	7	15

**Distribution of marks weightage for cognitive level:**

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



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Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**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.

**Course Outcome:**

<b>Sr. No.</b>	<b>CO statement</b>	<b>Marks % weightage</b>
CO 1	To understand and Solve forecasting problem by applying different techniques	15
CO 2	Describe the determinants of effective capacity	25
CO 3	describe what factors an organization must consider in selecting a facility location;	15
CO 4	To Apply Various shop floor planning, scheduling and production control techniques	20
CO 5	To understand Network analysis techniques such as CPM & PERT.	25

**List of Open Source Software/learning website:**

<https://nptel.ac.in>,