



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB02092051

Course / Subject Name : Production & Operations Management

w. e. f. Academic Year:	2024-25
Semester:	2
Category of the Course:	Core Course (CC)

Prerequisite: Any Graduate

Rationale:	Studying Productions & Operations gives learner the know-how to plan, evaluate, and enhance production processes, guaranteeing economical efficiency, superior results, and optimal use of available resources. Getting expertise in this field, will aid in improving organizational productivity.
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Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Analyze the fundamentals of production and operations management for organizational Decision Making in context of Industry	Remember, Analyze
02	Do facility planning by undertaking location and layout decision on the basis of various factors for firms in different Industry at Local and Global Level	Understand, Evaluate
03	Evaluate the various methods of Scheduling and Create Network models by applying the techniques like PERT/ CPM for various business projects	Evaluate, Application, Create
04	Compare and understand various dimensions of Quality, TQM and ISO standards for Industry	Understand, Evaluate
05	Analyze the Industrial Safety in Industry at local and global level	Analyze

**Revised Bloom's Taxonomy (RBT)*

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	1	0	4	70	30	50	0	150



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Course Content:

Module No:	Module Content	No. of Hours	% of Weightage
I	Introduction of Production & Operation Management: - System and function view of organizations, scope, Evolution and future of production and operation management. - Process design-different types of process with its. Merits and demerits, process classification based on order, process selection, different type of manufacturing process, process performance and evaluation etc. - Product design; types of products and designing, evaluation of design - Product design process, Product Strategy – Make to stock, make to order and assemble to order products and services, evaluation of design, Intermittent Vs Continuous manufacturing, Mass Production Vs Batch production	10	20
II	Facility location;(theoretical concept only) Plant Layout: - Different types of layout. Aggregate Production Planning(APP): - Objective, strategies and cost of APP ,master production schedule, Rough cut capacity planning etc.(theoretical Production Planning & Control – Concept, , Objectives, Elements concept only) Material Requirement Planning (MRP) (theoretical concept only), Basics of Supply chain management (Evolution, Key concepts and Importance), Inventory Management (theory and numerical)	12	30
III	Operations scheduling: - Definition, Objectives, Types - Sequencing (n-jobs on m machine) (theory and numerical) - Queuing systems (Waiting Line Analysis) (theory and numerical) - Line Balancing(theoretical concept only) Project management;Project scheduling by using network PERT/CPM, (theory and numerical)	13	30



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IV	Quality management: • Definition, experts' views on quality. • Dimensions of quality. • Cost of quality and quality cost audit. • Statistical process control, control charts (theory and numerical), Total quality management (TQM), Six sigma, ISO 9000 and other ISO series. • Lean and Just in Time production system (theoretical concept only) Industrial safety	10	20
V	Practical ○ Students should visit manufacturing/ service organizations and ○ Identify the production planning and control systems, procedures and techniques. For service organizations, they can learn about how services are produced and how existing capacity is matched with demand. ○ Identify operations scheduling in any system and suggest more efficient ways of doing work. ○ Understand the significance of existing plant or service layouts. ○ Identify materials and inventory management practices in organized and unorganized sectors. ○ Simulate a production capability / facility with the optimum use and application of concepts.	15	NIL
	TOTAL	60	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
10%	20%	15%	20%	20%	15%

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:



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No.	Author	Name of the Book	Publisher	Year of Publication /Edition
1	Chase R.B., Jacobs,F. R., Aquilano, N. J. and Agarwal N.K.,	Operations Management for Competitive Advantage	TMH	Latest
2	Kanishka Bedi	Production and Operation Management	Oxford	Latest
4	Roberta S. Russell, Bernard W. Taylor	Operations and Supply Chain Management	Wiley	Latest
5	Arun Kumar,N. Meenakshi, Chetankumar J Lad, Rajesh Faldu, Jigar Nagvadia, Richa Pandit, Prakash Patel	Production and Operation Management	Cengage	Latest
6	Heizer, Jayand Render, Barry	Operations Management	Pearson	Latest
7	Elwood S. Buffa and Rakesh K.Sarin	Modern Production and Operations Management	Wiley	Latest
8	David A. Collier, James R .Evans and Kunal Ganguly	Operation Management	Cengage	Latest
9	S. A. Chunawala, Dr. R. Patel	Production and Operations Management	Himalaya	Latest
10	Martin K. Starr	Production and Operation	Cengage	Latest
11	Chase, Shankar & Jacobs	Operations & Supply chain management	McGraw Hill	Latest
12	Indian Institute of Material Management	Logistics & Warehouse Management	Indian Institute of Material Management	Latest
13	Jana Shah	Supply chain management	Pearson	Latest

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

(b) List of Journals /Periodicals /Magazines/Newspapers/Web resources,etc.

1. International Journal of Production Economics
2. Journal of Production Research and Management
3. Journal of Operations Management



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CO- PO Mapping:

Semester 2	Productions & Operations Management				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	3	-	1	2	3
CO2	2	3	-	3	-
CO3	3	2	2	-	3
CO4	-	1	2	3	1
CO5	1	2	3	2	2

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

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