



SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY'S
R. N. G. PATEL INSTITUTE OF TECHNOLOGY - RNGPIT

An Autonomous Institute u/s UGC Act 1956

Approved by AICTE & affiliated to Gujarat Technological University

Bardoli - Navsari Road, At: Isroli (tadjore), Po: Afwa, Tal: Bardoli, Dist: Surat, Pin - 394620
Phone: 95129 00457, 95129 00458 • Email: Info@rngpit.ac.in • Website: www.rngpit.ac.in

Program Name: MBA

Level: Post Graduation

Branch: Logistics & Supply Chain Management

Course / Subject Code: 1MB1206

Course / Subject Name: Production & Operation management

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

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	<i>Understand</i> the fundamental concepts of Production and Operations Management, including system and function views, scope, and evolution, to describe its significance in organizational success.	U
02	<i>Analyze</i> various process design strategies and process classifications, including order-based and manufacturing processes, to evaluate their merits and demerits in optimizing operational performance.	A
03	<i>Apply</i> concepts of facility layout design, facility location, and aggregate production planning to develop optimized production schedules, ensuring efficient use of resources and meeting production goals.	A
04	<i>Evaluate</i> methods of project management using network techniques like PERT and CPM, as well as operations scheduling and sequencing, to solve real-world project and production management problems.	E
05	<i>Design</i> and implement quality management practices such as TQM, Six Sigma, and Statistical Process Control (SPC) to enhance product quality, reduce costs, and meet international quality standards like ISO 9000.	U

*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	
			SEE (TH)		IAT	CCE	SEE (P)	
4	0	0	4	70	30	50	00	150



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SEE: Semester End Examination

IAT: Internal Assessment Test

CCE: Continuous and Comprehensive Evaluation

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	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	8	20%
2.	Technology Integration in Operations and Supply Chains Impact of technologies like IoT, RFID, and blockchain on production and logistics operations, Use of automation and robotics in warehouses and production lines. Material Requirement Planning (MRP) (theoretical concept only), Lean and Just in Time production system (theoretical concept only), Forecasting for Inventory and Production Control	12	30%
3.	Operations scheduling; sequencing (n-jobs on one machine) (theoretical concept with examples) Project management; Project 12 21 scheduling by using network PERT/CPM (theoretical concept with examples) Queuing systems (Waiting Line Analysis) (theoretical concept with examples), Line Balancing	10	25%
4.	Quality management; Definition, experts' views on quality, dimensions of quality, focus on quality, cost of quality and quality cost audit, statistical process control, types of variation. control charts (theoretical concept with examples), total quality management (TQM), Six sigma, ISO 9000 and other ISO series, health and safety, Understanding the role of service quality in production and operations management, Key dimensions of service quality (SERVQUAL model): Reliability, Assurance, Tangibles, Empathy, and Responsiveness.	10	25%
5.	Application: • Introduction to ERP and its application • Visit any industrial unit and understand the processes performed in the unit. Use	--	30 Marks



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the theoretical knowledge to understanding the operations. Prepare a report on how the above concepts used in selected industrial unit under the guidance of your subject teacher.		
Total	40	100

Suggested Specification Table with Marks (Theory):

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

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

Evaluation:

Students shall be evaluated on the following components:

A	Continuous and Comprehensive Evaluation	(Internal Assessment – 50 Marks)
	Practical activities suggested in Module V	30 Marks
	Class Presence & Participation	10 Marks
	Quiz	10 Marks
B	Internal Assessment Test	(Internal Assessment-30 Marks)
C	Semester End Examination	(External Assessment-70 Marks)

References/Suggested Learning Resources:

(a) Books:

- 1 Pravin Durai Human Resource Management Pearson Second Edition
- 2 Garry Dessler and BijuVarkkey Fundamentals of Human Resource Management Pearson Latest Edition
- 3Uday Kumar Haldar & Juthika Sarkar Year of Publication Human Resource Management
- 4 P. R. N. Sinha, S. P. Shekhar / Indu Bala Oxford Latest Edition Human Resource Management
- 5Sharon Pande & Swapnalekha Basak Cengage Latest Edition Human Resource Management – Text and Cases 4 Vikas Latest Editi

(b) Open source software and website:

1. <https://nptel.ac.in/courses/110101005>
2. https://en.wikipedia.org/wiki/Managerial_economics

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