

Branch Name:	MANAGEMENT
Program Code:	MS201
Course Name:	Manufacturing and Operations Management
Course Code:	2MS2010202T
Pre-requisite Course:	Inclination towards production and manufacturing, sound reasoning and calculation ability, Commerce and system approach, value addition model.

Course Objectives and Outline:

- 1) This course examines the functional area of production and operations management in the manufacturing industry.
- 2) This course focuses on the role of operations management as a strategic element of the total organization.
- 3) We will cover classic and up-to-date tools and concepts used to support operational managerial decisions.
- 4) Topics include decision-making, facility location and layout planning, aggregate production planning, inventory management, project management, waiting line analysis, and modern production concepts.
- 5) This course is designed for students to develop an understanding of the strategic importance of manufacturing supply chains and how operations can provide a competitive advantage in the marketplace.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	1	-	4	60	40	-	-	100

Subject Content

Sr No.	Topic	Total Hours	Weightage (%)
1	Essentials of Manufacturing Management Product Development & Process Selection Manufacturing Systems Classification Facilities Location & Layout Planning Assembly Line Balancing	12	25%
2	Aggregate Production Planning: -Need for Aggregate Production Planning, Basic strategies for Aggregate Production Planning, Aggregate Production Planning Methods, Inventory Management -An Overview of Material Management -Managing Inventory of Independent Demand Items (EOQ, Quantity Discounts, ABC Analysis) Safety Management	12	25%

3	Project Management -CPM, PERT, Crashing of Network Scheduling -Need for Scheduling, Single Machine Scheduling, Scheduling of Job Shops	12	25%
4	Waiting Line Analysis(Queuing) -Elements of Waiting Line, Waiting Line Analysis & Quality, Single Server Models Transportation Problems Advanced Manufacturing Systems -Introduction to JIT, TQM, Six Sigma, Kanban, Kaizen	12	25%

Reference Books

Sr. No.	Books
1	Production and Operations Management, By R Panneerselvam, Prentice-Hall India
2	Production and Operations Management, By Kanishka Bedi, Oxford Higher Education
3	Quantitative Techniques in Management, By N.D. Vohra, The McGraw-Hill
4	Operations Management-Quality and Competitiveness in a Global Environment, By Russell & Taylor, Wiley-India Edition

List of Open Source Software/learning website:

a. Journals/Magazines

- Journal of Operations Management, ELSEVIER
- International Journal of Operations & Production Management
- International Journal of Supply and Operations Management

b. Web-Links

<http://eaindustry.nic.in/home.asp>

<http://business.mapsofindia.com>

http://www.sas.com/en_th/software/analytics/sas-or.html

<http://www.coin-or.org/>

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	To understand production, different types of production systems, to know the importance of facility locations.	1. Remember
CLO2	To understand and create economic scheduling in the production system. To create basic skills of production facility management.	3 Apply, 4 Analyse
CLO3	To create affecting planning of big projects using PERT, CPM. To learn Aggregate Planning. Line Balancing and Inventory management techniques.	3 Apply, 4 Analyse
CLO4	To understand the difference between production and operation, To understand big projects and their management.	2. Understand
CLO5	To create a production facility or operation for an economic business.	5 Evaluate, 6 Create

Mapping of CLOs with Pos & PSOs

Course	Program Outcomes(POs)								Program Specific Outcomes(PSOs)	
Learning Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PSO1	PSO2
CLO1	H	M		L	L	M	L	H	M	
CLO2	H	H	L	H		M				
CLO3	H	L	H			L		L		M
CLO4	H	H		H					H	
CLO5			H			H	M	H		

H: High, M: Medium, L: Low