

Operations
Sem III

> Course Content:

Semester	III Core
Subject	Manufacturing Resource Planning and control
Course Code	MMSOC304 (RGCMS)
Credits	4
Duration	40

Learning Objectives

1	To understand importance of manufacturing resources planning and control to achieve continuous improvement in the better performance.
2	To give knowledge of quantitative methods as well as various tools of resources planning like MRP1,MRP2 & ERP for decision making in operations.

Prerequisites if any

Operations management

Connections with Subjects in the current or Future courses

Materials Management , SCM

Module

Sr. No.	Content	Activity	Course Outcome
1.	Overview of operations planning & control recent business environment, Challenges in competitive edge by PPC Various Manufacturing resources importance their planning and control. Functions of operation planning and control Hierarchy of production plans overview,	Case Study/ Role-play/ Drama/ Group Discussion	MMSOC304.1
2.	Various models optimization line balancing models. Demand management capacity planning models lay out models. Quantitative problems, MRP as systems. Numbering Problems.	Case Study/ Role-play/ Drama/ Group Discussion	MMSOC304.2
3.	Capacity Management: Introduction to capacity, capacity management, need capacity planning level visa visca, production planning. Capacity expansion strategies Rough out capacity planning RCCP CRP- Capacity requirement Planning Scheduling strategiesProduction smoothly policiesFinite & Infinite loads.	Case Study/ Role-play/ Drama/ Group Discussion	MMSOC304.3
4.	Mater production scheduling module (I) Need objectives functions flow of	Case Study/ Role-play/ Drama/ Group Discussion	MMSOC304.4

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	<p>materials in different manufacturing scenarios case studies MPS module (II) Broader heading, planning horizon time periods, order management, safety and hedges, effect of changing MPS Materials requirement planning MRP1 Broader topics: Introduction roles & functions. Independent & dependent demand, Types of Bills of materials, Manufacturing Resource planning MRP II (Module I) : Introduction to MRP II, Roles functions frame work of information flow in MRP II, Relation of MRP II with demand management and capacity management manufacturing MRP II module II: Transition of MRPI to MRPII closed loop MRP, comparison between MRP1 & MRP II benefits. ERP - Need, function & utility to business ERP-SAP-PPC modules. Reports, Interpretation variance.</p>		
5.	<p>linkages to achieve business plans Case studies & presentation on all above topics. Analysis - use in decision making. Case studies & presentation on all above topics.</p>	Case Study/ Role-play/ Drama/ Group Discussion	MMSOC304.5

II> Course Outcomes

Code	Course Outcome	<u>Cognition</u>
MMSOC 304.1	To demonstrate how manufacturing resources planning and control is critical for business	Understand
MMSOC 304.2	To apply quantitative methods for resource planning	Apply
MMSOC 304.3	To define capacity planning and continuous improvement as the way to better performance.	Remember
MMSOC 304.4	To compare various tools of resource planning like Mrp,Mrp2,ERP	Evaluate
MMSOC 304.5	To choose from outcomes from tools for better decision making	Evaluate

Text Books		
1	Production/ Operations Management	Ashwathappa & Shridhar Bhat
2	Operations Management (Theory & Practice)	B. Mahadevan Person publication 2 nd edition.
3	Production/ Operations Planning and Control	Stephen Chapman

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Reference books		
1	Elements of production planning & control	Samuel Eilon
2	Operations Planning & Control	S.K Mukhopadhaya
3	Manufacturing Planning and Control	Volmann, Berry, Whybark