



**Dr. V. N. Bedekar Institute of Management, Thane**  
**Teaching Plan (MMS/PGDM)**  
**Academic Year (2016-2017)**

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Programme Name: MMS Sem 3- Operations

Name of the Course: Manufacturing Resource Planning

Maximum marks: \_100\_ No. of Sessions: 15 sessions of 3 hrs each

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Weblink:

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Learning Objectives: To enable the the students with a fair understanding of the important concepts of the subject, a fair degree of skill in the use of the tools involved and an appreciation of the application of the subject to actual operations.

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**Reference Books:**

1. Operations Management : Theory and Problems by JG Monks, McGraw-Hill Publication, 3<sup>rd</sup> edition,
  2. Operations Management-Theory and practice by B Mahadevan, Pearson Publication, 2<sup>nd</sup> Edition
  3. Manufacturing Resource Planning ( MRP II)with introduction to ERP, SCM and CRM by Khalid Sheikh, TMG, 1<sup>st</sup>Edn.
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**Plan:**

Session No	Topics to be covered	References- Print/Online	Sessions/ Hrs	Learning outcomes
1	<b>Introduction to the subject of Manufacturing Resources planning</b> , Master Production Scheduling( MPS), Need, Objectives and functions of MPS. MPS as a link between strategic and Tactical Planning. Logical Flow of materials in different manufacturing scenarios. Forecasting Techniques	Ref1&2 & slide sets	1/3hrs	Basic Understanding & problem Solving in Forecasting using Excel
2	Time periods and Planning Horizons of MPS, Order Management in MPS, Safety and Hedges, Projected Available Balance, Available to Promise. Time Fences and Effect of changing MPS decisions on time fences, Final Assembly schedule. Aggregate Production Planning	Ref-1 &2 & slide sets	1/3hrs	Basic Understanding & problem solving in Aggregate production using Excel
3	<b>Introduction to Material Requirement Planning-I</b> Role and Functions of MRP-I Indep/Dep Demand, Bill of Materials, Types of BOM, Numerical Problems on BOM	REF-1 &2 Slide sets	1/3hrs	Basic Understanding & problem solving in MRP using Excel
4	Numerical Problems on BOM( continued), Lot Sizing, MRP-I as an Input-Output Process. MRP-1 Spreadsheet Problems, Pegging reports and where-used files	Ref-1 &2 Slide sets	1/3hrs	Basic Understanding & problem solving MRP using Excel
5	<b>Introduction to Capacity Management</b> , Capacity Expansion Strategies, Capacity Planning Levels-Mfg planning	Ref-1&2 Slide sets	1/3hrs	Basic Understanding & problem Solving Capacity Planning using E



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	Levels, Capacity Measurement			
6	Rough cut Capacity Planning( RCCP) Capacity Requirement Planning, Shop Calendar, Scheduling strategies, Backward and forward scheduling, Infinite and Finite Loading, Production Smoothing Policies	Ref 1&2 Slide sets	1/3hrs	Basic Understanding & problem Solving Production scheduling using
7	<b>Manufacturing Resource Planning( MRP-II) 1<sup>st</sup> Module-</b> Introduction to MRP-II, The Framework of MRP-II, Info Flow in MRP-II, Relating MRP-II with Demand & capacity Management, Manufacturing Calendar.	Ref1&2 Slide sets Internet resources	1/3hrs	Understanding of Techniques of Production planning Using software
8	MRP-II 2 <sup>nd</sup> Module: Transition from MRP-I to MRP-II, Closed Loop MRP-II, Comparison of MRP-I and MRP-II, Plant and Supplier Scheduling.	Ref1 & 2 with slide sets	1/3hrs	Understanding of Techniques of Production planning Using software
9	MRP-II 2 <sup>nd</sup> Module: Problems associated with MRP-II, Benefits and Prospects of MRP-II, Compatibility with JIT	Ref1 & 2 with slide sets	1/3hrs	Understanding of JIT & importance of Production Planning
10	<b>Introduction to Layouts</b> , Layout Optimization, Line balancing: Models and Optimization	Ref1 & 2 with slide sets	1/3hrs	Importance and Application Of layout s with problem solving
11	Production Plans: An Overview Demand Management Models, Capacity Management Models	Ref1 & 2 with slide sets	1/3hrs	Aggregate Planning Models Exercises using Excel sheets
12	Resource Planning Models, Aggregate Planning Models	Ref1 & 2 with slide sets	1/3hrs	Understanding of Applications
13	<b>ERP, SAP, PPC Module:</b> Reports- Interpretation- Variance analysis use in decision making	Ref-3 & slide sets and Internet sources	1/3hrs	Understanding of Applications
14	Problem Solving / case study Session-I	Case discussions with Problem solving	1/3hrs	Understanding of Applications
15	Problem Solving /Case study session-2	Student Presentations	1/3hrs	Assessment and Evaluation



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**2. Practical Approach : Other activities (Atleast 4 distinct activities)**

<b>Sr. No.</b>	<b>Activity Name</b>	<b>Topic Coverd</b>	<b>Learning outcomes</b>
1	Role Play		
2	Industry Visit	Process charting	Usefulness of process charting In Operations
3	Academic Projects	Project work	Familiarity with applications
4	Book Review		
5	Group Discussion	Scenarios involving production planning	Team working and solving problems
6	Business Quiz / Business News sharing		
7	Videos / Simulation		
8	Use of Softwares and Labs	Excel based Planning work	Practice using excel
9	Any other activity		



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**Evaluation:**

**I) Internal:**

<b>Component</b>	<b>Details</b>	<b>Marks</b>
Class Test	Covering materials upto the 8 <sup>th</sup> session	20
Presentation	Project work report and presentation by group	15
Case Study	Class Problem solving	5
Participation & others		
Total		40

**II) External:**

**(Sample questions)**

1. Explain the Process of performing Production Planning in a manufacturing set-up
2. What is the importance and role of the Bill of Materials in MRP
3. Explain the difference between MRP-1 and MRP-II



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**Signature of Faculty**

**Signature of the Co-ordinator**