



**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE,**  
**PILANI**  
**Pilani Campus**

**PILANI, RAJASTHAN – 333031.**  
**INSTRUCTION DIVISION**  
**SECOND SEMESTER 2015-2016**  
**Course Handout (Part II)**

**Date: 13/01/2016**

In addition to part-I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

**Course No.** : MF F242  
**Course title** : **Manufacturing Management**  
**Instructor-in-charge** : **SRIKANTA ROUTROY**  
**Tut-Instructor** : **C V Sunil Kumar**

**Course description**

Introduction, product planning, forecasting, , process planning and design, layout of facilities, performance measures and capacity planning, planning and scheduling, material requirements planning and Just-in-time systems, inventory control, human resource management, financial management, marketing management, customer relationship management.

**Scope**

- To provide a good fundamental concepts in manufacturing management
- To promote the importance of decision making in manufacturing management
- To study the decision making in design, planning and control of conversion process / manufacturing systems
- To develop decision making skills in conversion process / manufacturing systems
- To make proficient in manufacturing / operations management

**Objectives**

- At the end of this course, the students will be able to understand the importance of decision making process in design, planning and control of manufacturing systems
- At the end of this course, the student will be able to apply the analytical skills for decision making in manufacturing management

**Text books**

- T1. Russell R.S. & Taylor, B.W., “Operations Management: Quality and Competitiveness in a Global Environment”, 5<sup>th</sup> Edition, John Wiley and Sons (Asia) Pte. Ltd., 2006

**Reference books**

- R1. Heizer Jay, Render Barry and Rajashekhar, “Operations Management”, 9<sup>th</sup> Edition, Pearson, New Delhi.
- R2. Mahadevan B., “Operations Management : Theory and Practice”, 2<sup>nd</sup> Edition, Paerson, 2010
- R3. Chase, R.B., Aquilano, N.J., and Jacobs, F.R., “Operation Management for Competitive Advantage”, 11th Edition, McGraw-Hill,



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**Course plan**

Lectures	Topics to be covered	Learning objectives	Reference
1 - 2	Introduction to Operations	Role and importance of PPC/OM in a plant. The evolution of PPC, role of OM in managing competitiveness	T 1
3 - 5	Product planning	The product design process, concurrent design, technology in design, QFD	T 4
6 - 8	Process planning	Process planning, analysis and innovation; Technology decisions	T 6
9 - 12	Layout planning	Facility layout, basic layouts, design of layouts, recent trends in layout	T 7
13 - 16	Project Management	Project Planning, scheduling, control and CPM/PERT	T 9
17 - 20	Forecasting	Role of forecasting, components of forecasting demand, forecasting methods, forecasting accuracy	T 12
21 - 25	Inventory management	Role of inventory, elements of inventory, inventory control systems, ECQ models,	T 13
25 - 30	Resource planning	Material requirements planning, master production schedule, CRP, ERP, PLM	T 15
30-32	Scheduling	Loading, sequencing, monitoring, advanced planning and scheduling systems, theory of constraints	T 17

**Evaluation scheme**

EC No.	Evaluation Component	Duration	Weightage	Date & Time	Remark
1	Mid Sem	90 Min	25 %	15/3 2:00 -3:30 PM	CB
2	Comp Exam.	3 Hrs	40 %	6/5 FN	Partially CB
3	Projects/ Case Study/ Assignments		20 %		
4	Surprise Quiz	10 Min	15 %		

**Chamber consultation hour:** Monday 10<sup>th</sup> Hour; Chamber: 1228 C

**Notices:** All notices regarding the course will be displayed only on the **Mechanical Engineering Department notice board.**

**Makeup policy:** Only students with genuine reason will be given consideration.

**Instructor In-charge**  
**MF F242**