BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, Pilani
Pilani Campus

INSTRUCTION DIVISION
FIRST SEMESTER 2016-2017
Course Handout (Part II)

Date: 02/08/2016

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. : **ME F412**
Course title : **Production Planning and Control**
Instructor-in-charge : **SRIKANTA ROUTROY**

Course description

Generalized model of production systems, types of production flows, Life cycle concepts, Facilities location and layout planning, Aggregate and batch production planning, Inventory systems, Materials requirements planning, Elements of monitoring and production control.

Objective

The objective of this course is to impart important decision making processes and analytical tools in design, planning and control of manufacturing / service processes. At the end of the course the students shall be able to establish routes and schedules for work that will ensure the optimum utilization of men, materials and machines in a manufacturing / services.

Scope

- Familiarise fundamental concepts in production / operations management
- Understand the decision making process in design, planning and control of manufacturing / service systems
- Develop skills for decision making in conversion process / manufacturing systems

Text books

T Russell R. S. & Taylor B. W., "Operations Management", International Student Version, 7/e, John Wiley and Sons (Asia) Pte. Ltd., 2011

Reference books

R1. Chase R.B., Aquilano N.J., and Jacobs F.R., "Operation Management for Competitive Advantage", 9th Edition, Tata McGraw-Hill, Delhi, 2002.
R2. Krajewski L. J., and Ritzman L.P., "Operations Management: Strategy and Analysis", 6th Edition, Pearson Education Asia, India, 2003.
R3. Wild R., Operations Management, 6th Ed., Thomson Learning, 2003.

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 - 13	Capacity and layout planning	Capacity planning, facility layout, basic layouts, design of layouts, recent trends in layout	T 7
14-16	Benchmarking	Types of benchmarking, Benchmarking Process	Class note
17 - 19	Forecasting	Role of forecasting, components of forecasting demand, forecasting methods, forecasting accuracy	T 12
20 - 25	Inventory management	Role of inventory, elements of inventory, inventory control systems, ECQ models,	T 13
26 - 28	Aggregate planning	Operations planning process, quantitative techniques for aggregate planning	T 14, 14S
29 - 33	Resource planning	Material requirements planning, master production schedule, CRP, ERP, PLM	T 15
34 - 36	Project management	Project Planning, scheduling, control and CPM/PERT	T 9
37 - 40	Scheduling	Loading, sequencing, monitoring, advanced planning and scheduling systems, theory of constraints	T 17

Evaluation scheme

Evaluation Component	Weightage	Date & Time	Remarks
Mid-Sem.	25%	6/10 2:00 - 3:30 PM	Closed Book
Comprehensive	40%	9/12 FN	Partial Open Book
Surprise Quiz	15%		Closed Book
Case Presentation/ Case Study/Assignment/project	20%		Open Book

Chamber consultation hour: Monday 10th hour (5PM - 6PM) chamber: 2252-P

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

Makeup policy: Make up will be permitted only in genuine cases with prior permission

Instructor-in-charge
ME F412