



Birla Institute of Technology & Science, Pilani
Hyderabad Campus

SECOND SEMESTER 2021-2022

COURSE HANDOUT (PART II)

Date: 06/01/2021

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. : MSE G512
Course title : Manufacturing Planning & Control
Instructor-in-charge : AMRITA PRIYADARSHINI

Course description

Introduction, operations and manufacturing strategy for competitive advantage, product design and planning, forecasting product demand, facilities location, process selection and design, capacity planning, layout of facilities, job design and work measurement, aggregate planning, master manufacturing schedules, material requirements planning for dependent demand, short-term schedules and shop floor control, independent demand inventory systems, logistics and supply chain management, just-in-time systems, maintenance and reliability, quality management, managing projects, strategies for manufacturing excellence.

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

Module No.	Lecture No.	Lecture Session	Reference	Learning outcomes
1	1-4	Introduction to Operations, Operational Decision-Making Tools: Decision Analysis	T 1, S1	Students will familiar with the need of Production Planning and Control in Industry. Operational Decision-Making Tools: Decision Analysis
2	5-8	Product planning	T 4	Students will able to find out the design requirements of a product and able to convert them into engineering specifications.
3	9-12	Process planning	T 6	Students will able to find out the design requirements of a process and its make its analysis.
4	13-16	Capacity and layout planning	T 7	Students will able to the design the layout for different manufacturing environments.
5	16-20	Forecasting	T 12	Student will be familiar with different forecasting methods and also able to assess the effectiveness of a forecasting method in a specific environment.
6	21-24	Inventory management	T 13	Student will be familiar with the inventory classification methods and control methods.
7	24-28	Aggregate planning	T 14, 14S	Student will able to develop aggregate planning and solve it for a specific environment.
8	29-32	Resource planning	T 15	Student will be familiar with various



Module No.	Lecture No.	Lecture Session	Reference	Learning outcomes
				analytical tools used in resource planning and project management.
9	33-36	Project management	T 9	Student will be familiar with various analytical tools used in resource planning and project management.
10	37-40	Scheduling	T 17	Students will able to analyse scheduling issues and learn different analytical tools related to scheduling.

Evaluation scheme

Evaluation Component	Duration	Weightage	Date & Time	Remarks
Mid-Sem.	90 min.	25% (50 Marks)	As per Timetable	CB
Comprehensive	120 min	40% (80 Marks)	As per Timetable	CB/OB
Case Presentation/ Literature Review/Assignment		10% (20 Marks)		OB
Project		25% (50 Marks)		OB

Chamber consultation hour: To be announced in the class.

Notices: All notices regarding the course will be displayed on CMS.

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

Academic Honesty and Integrity Policy: Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

Instructor-in-charge
MSE G512

