

Gautam Buddha University, Greater Noida

School of Engineering (Mechanical Engineering)

Degree	Course Name	Course Code	Marks:100
M. Tech.	Manufacturing System Management	MEM 611	25+25+50
Semester	Credits	L-T-P	Exam.
III	3	3-0-0	3 Hours

Unit – I

Introduction: Operations strategy; System concept of production; Types of production system; Process planning – make or buy decisions; Specific equipment selection; Process plans; Process re-engineering.

Unit – II

Facilities Location: Facility location factors; Location analysis techniques – location factor rating– center of gravity technique – load distance technique.

Facility Layout: Classification of layout; Layout design procedures – ALDEP; CORELAP and CRAFT.

Unit – III

Line Balancing: Rank positional weight method – COMSOAL algorithm.

Aggregate Planning: Aggregate planning strategies – Heuristic method and transportation model for aggregate planning.

Unit – IV

Materials Requirement Planning: Objectives - master production schedule – bill of materials – MRP calculations – lot sizing in MRP and manufacturing resource planning (MRP – II).

Unit – V

Inventory Analysis and Control: Definitions – inventory control systems - ABC inventory System - EOQ models for purchased parts and manufactured parts – quantity discounts –reorder point - Inventory models under uncertainty

Unit – VI

Just in Time Manufacturing: Introduction; Elements of JIT; Pull versus Push method; Kanban system; Production scheduling.

Recommended Books:

1. Production and Operations Management; R. Paneerselvam; Prentice Hall of India; 2010.
2. Operations Management; Roberta S. Russell and Bernard W. Taylor III; Prentice Hall of India; 2007.
3. Operations Management: A Quantitative Approach; P. B. Mahapatra; Prentice Hall of India; 2010.