

I Year M.Tech. CAD/CAM/CAE Semester - II	L	T	P	TO	C
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(ME 554) MANUFACTURING PLANNING & CONTROL					

Objective of the Course :

To improve the knowledge in product design and planning of production operations and to reduce the dwell time of machining and minimize the material handling.

UNIT - I

Introduction: Definition of Manufacturing Planning & Control (MPC) system, an MPC system frame work, evolution of MPC system, concluding principles.

Material Requirements Planning: MRP in MPC systems, Record Processing, Technical issues, Bucklet less systems, using MRP system, system dynamics, the MRP database, MRP system examples.

UNIT - II

Just in Time (JIT): JIT in MPC, a JIT example, JIT applications, Non-repetitive JIT, JIT in purchasing, JIT software.

Capacity Planning: Capacity Planning's role in MPC systems, capacity planning & control techniques, management & capacity planning, Database requirements, Applications.

UNIT - III

Production Activity Control: A framework, Techniques, Examples, Database.

Master Production Scheduling (MPS): Activity, Techniques, BOM structuring for MPS, final assembly schedule, Scheduler, Examples, Stability, Managing MPS.

UNIT - IV

Production Planning: Production planning in firm, process, new management obligations, operating systems.

Demand Management: Demand Management in MPC systems, techniques, managing demand, examples, and concluding principles.

UNIT - V

Integrated MPC systems: MPC Design, Operations, Choosing the options, The choices in practice, Integrating MRP & JIT, concluding principles.

Implementation of MPC systems: Initiating the project, essential prerequisites, organizational issues, the implementation project team, education, project management, auditing, concluding principles.

TEXT BOOKS:

1. Thomas E Vollman, William L Berry & D Clay Whybark, "Manufacturing Planning & Control Systems", 4th Edition, APICS Publications, 2006.
2. E.S.Buffa, Rakesh K. Sarin, "Production & Operations Management", 8th Edition, John Wiley & Sons, 2009.

REFERENCES BOOKS:

1. Donald W. Forgarts, John blackstone, "Production & Inventory Management", 1st Edition, South – Western Publication Co., 1991.
2. Evertt E. Adam, J.R. Ronald T. Ebert, "Production & Operation Management", 5th Edition, Pearson Publication, 2005.