

PEMF5406 COMPUTER INTEGRATED MANUFACTURING (3-0-0)

MODULE -I

(12 hours)

PRODUCTION PLANNING AND CONTROL :Basic concepts – Types of production System - Functions of production planning and control – problems with Production Planning and Control – Computer Integrated Production Management System– Forecasting – Purpose and methods of forecasting – Single and Double Moving average methods – Single and Double exponential smoothing methods – Simple regression method of forecasting – errors in forecasting.

MODULE -II

(11 hours)

MATERIAL REQUIREMENT PLANNING: Basic MRP Concepts – Inputs to the MRP System – Master production Schedule – Bill of Materials, Inventory Record File – MRP Logic – Gross requirements, net requirements, lot sizing - MRP reports – Capacity Planning – Benefits of MRP Manufacturing Resource Planning (MRP II). **SHOP FLOOR CONTROL:** Functions of shop floor control – order scheduling – order progress – Data logging and acquisition – Automated data collection – Control types – Sensor Technology.

MODULE -III

(12 hours)

COMPUTER AIDED PROCESS PLANNING :Need for process planning – Functions of process planning – Future trend of CAPP – Expert process planning system – case studies.-Variant process planning – part family search – Generative method of CAPP – Forward and Backward planning – input format – part description methods – CAD Models – Decision Logic – Artificial Intelligence – Knowledge Representation – Databases and Algorithms – Automatic Process Planning – Programming Practice using C, C++ for Computer Integrated Production Management System Applications

TEXT BOOKS

1. MikellP.Groover, "Automation, Production Systems and Computer Integrated Manufacturing", Prentice Hall of India, 2004.
2. S.Kant Vajpayee, Principles of Computer Integrated Manufacturing, Prentice Hall of India, 2006

REFERENCES

1. MikellP.Groover M.P., Emory W. Zimmers, "CAD/CAM, Computer Aided Design and Manufacturing", Prentice Hall of India, 2006.
2. Gideonha and Roland D.Well, "Principles of process planning", Chapman and Hall,1995.
3. T.C.Chand, "Expert process planning for manufacturing", Addison Wesley publishing company, 1990