

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. SEMESTER : VIII
MANUFACTURING ENGINEERING

Subject Name: Information Technology in Manufacturing

Subject Code:183402

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
4	0	3	7	70	30	30	20

Sr No	Course Contents
1	INTRODUCTION Role of internet and information technology in manufacturing, present market constraints, extended enterprises, B2C and B2B, PLM and PDM, use of analysis software and manufacturing process simulation software.
2	PRODUCT DEVELOPMENT AND ISSUES Product lifecycle, sequential engineering Vs concurrent engineering, concurrent engineering and information technology, Global Product and Product Complexity, product development and its relevance, make to stock, assemble to order, engineer to order situations.
3	AUTOMATED PROCESS PLANNING Process planning, structure of a process planning software, information requirements for process planning, operation of a typical computer aided process planning software, group technology.
4	PLANNING OF RESOURCES FOR MANUFACTURING THROUGH IT Background, role of MRP-II, MRP software, manufacturing applications, engineering applications, financial applications, marketing applications, dynamic enterprises, ERP, SCM, virtual manufacturing, knowledge of inventory and BOM.
5	COLLABORATIVE ENGINEERING Faster design throughput, web based design, changing design approaches, engineering change management, product configuration management, extended enterprises, enterprise wide product visualization, enterprise application integration for PLM.

TEXT BOOKS:

1. John Stark, "Global Product: Strategy, Product Lifecycle Management and the Billion Customer Question", Springer Publisher, 2007.
2. John Stark, "Product Lifecycle Management: 21 century paradigm for Product Realisation", Springer Publisher, 2005.
3. Dave Garwood, "Bills of Materials for a Lean Enterprise", Dogwood Publishing Co., 111 Village Parkway, Third Edition, 2004.
4. Radhakrishnan P, Subramanyan S and Raju V, "CAD/CAM/CIM", New Age International Publishers, 2002.

5. Cornelius Leondes, "Computer Aided Design - Vol 2: Computer Integrated Manufacturing", CRC Press, 2001.
6. Mikell P Groover, "Automation, Production Systems and Computer Integrated Manufacturing", Prentice Hall, 1998.
7. Puente E and Macconail P, "Computer Integrated Manufacturing", Springer-Verlag, 1998.
8. Kant Vajpayee S, "Computer Integrated Manufacturing", Prentice Hall, Inc, 1995.