

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 1

Mechanical Engineering (CAD/CAM)

Subject Name Computer Aided Production Management

Sr.No	Course content
1.	Computer Aided Forecasting : Nature and use of forecast, sources of data, demand patterns, forecasting methods – Delphy’s method, Time series method, exponential smoothing, linear regression, Box Jerkin’s method, ,selection of forecasting technique, measurement of forecast Accuracy-MAD, Adoptive methods
2.	Computerized relative allocation of facility technique, automated layout design program and computerized relationship layout planning for facility location and layout
3.	Group Technology: - Introduction, objectives part families, algorithms and models for G.T. - Rank order clustering, Bond energy, mathematical model for machine – component cell formation. Design and manufacturing attributes. Parts classification and coding, concept of composite job machine group, cell group tooling, design rationalization, CAD/CAM and GT benefits.
4	Computer Aided Process Planning: Generative and variant types, backward and forward approach, feature based and CAD based CAPP, Operation Management.
5	MRP: Introduction, Objective, Input, Computational procedure, information provided by the system. Detailed capacity planning, manufacturing resources planning.
6	ERP: Introduction, main features, generic model of ERP system, selection of ERP, proof of concept approach, analytic hierarchy approach, ERP implementation
7	Job Sequencings, scheduling
8	SHOP FLOOR CONTROL: Data collection, computer generated time standard
9	COMPUTER AIDED INSPECTION: Computer Aided Testing, Contact type, non-contact type.
10	SIMULATION: Major activities, purpose, simulation process, types methodology, simulation packages, process quality simulator, computer requirements trends, applications simulation of machine shop.

REFERENCE BOOKS:

1. Computer Aided Manufacture by Chien Chang and Richard A Wysk, Prentice Hall.
2. CAD / CAM by M.P. Groover & Zimmers.
3. G.T. in the engineering industry Bur bridge.
4. Modern Production Management – Buffa & Sarin.
5. Computer Aided Production Management – P.B.Mahapatra.
6. Production Operation Management – Adam Ebert.
7. CAD / CAM / CIM by P. Radhakrishnan, S. Subramanyan, New Age International.