

I Year M.Tech. CAD/CAM/CAE	Semester - II	L	T	P	Tot.	C
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(ME 556) COMPUTER INTEGRATED MANUFACTURING

UNIT - I

Introduction: Objectives of a manufacturing system-identifying business opportunities and problems classification production systems-linking manufacturing strategy and systems-analysis of manufacturing operations

Computer Aided Planning And Control: Production planning and control-cost planning and control-inventory management-Material requirements planning(MRP)-shop floor control-Factory data collection system-Automatic identification system-barcode technology-automated data collection system.

UNIT -II

Computer Monitoring: Types of production monitoring systems-structure model of manufacturing process-process control &strategies-direct digital control-supervisory computer control computer in QC – contact inspection methods, non-contact in section method- computer-aided testing-integration of CAQC with CAD/CAM

UNIT - III

Integrated manufacturing system: Definition- application- features- types of manufacturing systems-machine tools-materials handling system-computer control system- DNC systems manufacturing cell

UNIT - IV

Flexible manufacturing systems- the FMS concept -transfer systems-head changing FMS– variable mission manufacturing system- CAD/CAM system- human labour in the manufacturing system-computerintegratedmanufacturingsystembenefits.Rapidprototyping- Artificial Intelligence and Expert system in CIM

UNIT - V

Material Handling in Manufacturing Systems: Material handling function, Types of material handling equipment, AGV Systems, Automated Storage / Retrieval Systems, Interfacing handling and storage with Manufacturing.

TEXTBOOKS:

1. Groover, M.P., "Automation, Production System and CIM", Prentice-Hall of India, 1998.

REFERENCES:

1. David Bedworth, "Computer Integrated Design and Manufacturing", TMH, New Delhi,
2. Yoram Koren, "Computer Integrated Manufacturing Systems", McGraw Hill, 1983.
3. Ranky, Paul G., "Computer Integrated Manufacturing", Prentice Hall International
4. R. W. Yeomamas, A. Choudry and P. J. W. Ten Hagen, "Design rules for a CIM system", North Holl and Amsterdam, 1985.
5. PNRAO, "CAD/CAM" (PHI)