

I Year II Semester
Code: 17CC233

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CONCURRENT ENGINEERING
(ELECTIVE - III)

UNIT I: INTRODUCTION

Extensive definition of CE - CE design methodologies - Organizing for CE - CE tool box collaborative product development.

USE OF INFORMATION TECHNOLOGY

IT support - Solid modeling - Product data management - Collaborative product commerce - Artificial Intelligence - Expert systems - Software hardware co-design.

UNIT II:

DESIGN STAGE : Life-cycle design of products - opportunity for manufacturing enterprises - modality of Concurrent Engineering Design – Automated analysis idealization control - Concurrent engineering in optimal structural design - Real time constraints.

UNIT III:

MANUFACTURING CONCEPTS AND ANALYSIS : Manufacturing competitiveness - Checking the design process - conceptual design mechanism – Qualitative, physical approach - An intelligent design for manufacturing system –

UNIT IV:

JIT system - low inventory - modular - Modeling and reasoning for computer based assembly planning - Design of Automated manufacturing.

PROJECT MANAGEMENT: Life Cycle semi realization - design for economics - evaluation of design for manufacturing cost

UNIT V

Concurrent mechanical design - decomposition in concurrent design - negotiation in concurrent engineering design studies - product realization taxonomy - plan for Project Management on new product development – bottleneck technology development.

TEXT BOOKS:

Integrated Product Development / Anderson MM and Hein, L. Berlin, Springer, 1987.
Concurrent Engineering: Automation Tools and Technology / Andrew Kusaik, John Wiley.

REFERENCES:

Design for Concurrent Engineering / Cleetus, J, Concurrent Engg. Research Centre, Morgantown, WV, 1992.
Concurrent Engineering Fundamentals: Integrated Product Development/ Prasad, PrenticeHall, 1996.
Successful Implementation of Concurrent Product and Process / Sammy G Sinha, Wiley, John and Sons Inc., 1998.