



337713 (37)

BE (7th Semester)

Examination, April- May, 2013

Branch : Mechanical, Mechatronics

**COMPUTER AIDED DESIGN &
MANUFACTURING**

Time Allowed : Three Hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) of each question is compulsory. Solve any two parts from (b), (c) and (d) in each question.

337713 (37)

P.T.O.

(2)

UNIT - I

- Q. 1. (a) Write the name of 2 CAD and 2 CAM software. 2
- (b) Briefly explain the computerised product cycle in the manufacturing environment. 7
- (c) Briefly explain the requirements for a graphic database. 7
- (d) What do you understand by concurrent engineering ? How it is better than sequential engineering ? 7

337713 (37)

(3)

UNIT - II

- Q. 2. (a) Define Geometric Modeling. 2
- (b) What is the best kind of a modeling system? Explain with suitable sketches. 7
- (c) What do you mean by Rapid Prototyping? Give the detail of any one rapid-prototyping process you are familiar with. 7
- (d) Give a classification of the different surfaces that can be used in geometric modelling applications? 7

337713 (37)

P.T.O.

(4)

UNIT - III

- Q. 3. (a) Define Numerical Control. 2
- (b) What are the requirements of feedback devices in CNC machine tools? 7
- (c) What is adaptive control optimisation? How it is used in CNC machine? 7
- (d) What are the basic assumptions made while programming in APT language? 7

UNIT - IV

- Q. 4. (a) Define computer integrated manufacturing. 2
- (b) Explain the types of coding system possible for group technology. 7

337713 (37)

(5)

(c) What is computer aided process planning and hence explain variant and generative approach to CAPP. 7

(d) What are the major element of Flexible Manufacturing System (FMS). 7

UNIT - V

Q. 5. (a) Define finite element method. 2

(b) Explain functions served by preprocessor and post processor in FEM. 7

(c) What are various types of analysis in finite element methods ? Explain. 7

337713 (37)

P.T.O.

(6)

(d) Write short notes on : 7

(i) Discretization

(ii) Stiffness matrix

337713 (37)