Roll No. .....

24047

B. Tech. 3rd Sem. (ME)

Examination – December, 2015

COMPUTER AIDED DESIGN

Paper : ME-203-F

Time : Three Hours] *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any ***five*** questions from ***eight*** questions. At least ***one*** question from each Section. Question No. 1 is ***compulsory***.

1. (a) Name the component of design process.

(b) Define FMS.

(c) What is CAPP ?

(d) What is ATC and its application.

(e) What is cellular manufacturing ?

(f) Define CAD.

(g) What do you mean by local co-ordinate system ?

(h) What are explicit and implicit functions ? Give examples.

(i) Define G02, G90 CNC codes.

(j) What is sweep-representation ? 2 x 10 = 20

SECTION – A

2. What do you understand by computer-aided design ? Write the applications of CAD. What are the requirement of CAD in terms of Hardware and software ? 20

3. (a) Define rotation, reflection & scaling for 3D Cartesian coordinates. 10

(b) What do you understand by solid modeling in details ? 10

SECTION – B

4. (a) Draw Bezier curve with the help of control points (1, 1), (10, 5), (10, –5) and (15,10). 10

(b) What are the basic characteristics of curves, explain? 10

5. (a) Differentiate between constructive solid geometry (CSG) and boundary representation. (B- rep). 10

(b) Define B-Spline surface. 10

SECTION – C

6. Explain the Construction and working of CNC machines. 20

7. (a) What is group technology ? Explain part classification and write various coding system. Why group technology is developed ? Write its advantages. 10

(b) What is part family explain with suitable example ? 10

SECTION – D

8. Explain in detail the FMS, types of FMS its applications, advantages and disadvantages. 20

9. Explain the concept of finite element method (FEM), Discuss the various steps used in the finite element method. 20