M. Tech.-I (Mechanical CAD/CAM) (CBCS – 2015 Course) :
SUMMER - 2019
SUBJECT : COMPUTER AIDED DESIGN

Day : Thursday
Date : 16/05/2019

S-2019-3385

Time : 11.00 AM TO 02.00 PM
Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in SAME answer books.
4) Assume suitable data if necessary.

SECTION – I

Q.1 Discuss the CAD/CAM tools based on their constituents and implementation in a design environment. **[10]**

OR

The Hermite cubic spline curve has the end points P_0 (1, 1) and P_1 (7, 4). The tangent vector for end P_0 is defined by the line between P_0 and another point P_2 (8, 7) whereas the tangent vector for end P_1 is defined by the line between P_1 and P_2 (8, 7). Plot the curve for the points at the value of u = 0, 0.2, 0.4, 0.6, 0.8 and 1. **[10]**

Q.2 Explain with the neat sketches the various surface entities. **[10]**

OR

Explain parametric representation of analytical surfaces as: **[10]**
a) Ruled surface **b)** Surface of revolution

Q.3 Write short note on surface manipulation technique: **[10]**
a) Evaluating points and curves on surfaces **b)** Intersecting
c) Trimming

OR

Explain with example the two dimensional geometric transformation using homogeneous coordinates. **[10]**

SECTION – II

Q.4 Explain boundary representation (B-rep) approach for solid modeling. **[10]**

OR

Explain in detail the process of evolution of CAD/CAM data exchange formats. **[10]**

Q.5 Explain briefly the concept of behavioral modeling used in CAD. **[10]**

OR

Write a note on: **[10]**
a) Tolerance specification **b)** Tolerance analysis **c)** Tolerance synthesis

Q.6 Explain the concept of collaborative design with a case study. **[10]**

OR

What is product data management? Explain with example the use of PDM in manufacturing industry. **[10]**

* * * *