

Total No. of Questions : 10]

SEAT No. :

P2237

[Total No. of Pages : 2

[4460]-594

M.E. (Mechanical) (CADM & E) (Semester - I)

COMPUTER AIDED DESIGN

(2012 Pattern)

Time :3 Hours]

[Max. Marks :100

Instructions to the candidates :

- 1) *Answer any three questions from each section.*
- 2) *Answers to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Assume suitable data, if necessary.*

SECTION - I

- Q1)** a) Explain the function of graphics module of software. [9]
b) Explain different types of systems used in CAD/CAM. [9]
- Q2)** a) Derive the parametric representation of Line. [8]
b) Derive the parametric representation of Hyperbola. [8]
- Q3)** a) What is hermite cubic spline? Derive parametric equation & explain. [8]
b) State & elaborate the differences between Bezier curve & B-Spline. [8]
- Q4)** What is surface manipulation? Discuss. Explain in detail displaying, segmentation, trimming & intersection. [16]
- Q5)** a) Discuss prespective projections in the context of CAD. [8]
b) Explain Reflection in detail with suitable example. [8]

SECTION - II

- Q6)** a) Explain IGES data format in detail. [9]
b) Discuss ACIS & DXF in detail. [9]
- Q7)** What is constructive solid Geometry? Explain CSG approach with basic building blocks in detail. [16]

P.T.O.

- Q8)** a) Explain mechanical tolerancing in the context of CAD. [8]
b) Explain any one algorithm for hidden line removal. [8]
- Q9)** a) Explain the collaborative approach of Engineering. [8]
b) Describe any one surface removal algorithm. [8]
- Q10)** a) A rectangular lamina with A[2, 5] , B[10, 5] C[10, 15] & D[2, 15] is scaled by 3 times in X-direction & 5 times in Y-direction, then it is translated by translation matrix (8, 5). Find the final position of lamina.[8]
b) What is design by features? Explain. [8]

