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14MCM13

First Semester M.Tech. Degree Examination, Dec.2015/Jan.2016
Computer Aided Design

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1
 - a. Explain the four functional areas in which CAD system can be used to perform the design related tasks. (08 Marks)
 - b. Write the software configuration of a graphics system and explain the three modules. (06 Marks)
 - c. Explain with a neat block diagram the desirable relationship of CAD/CAM database to CAD and CAM and creating the manufacturing database. (06 Marks)

- 2
 - a. Explain Homogeneous representation of geometric entities and its requirement. (04 Marks)
 - b. Describe concatenation of transformation and explain Reflection of an entity about an arbitrary line. (04 Marks)
 - c. A polygon is formed by the points (2, 2) (5, 2) (5, 5) (2, 5) represent the polygon in the homogeneous representation form and perform to following transformations and determine the position of the trans entity and represent graphically.
 - i) Reflection about x – axis
 - ii) Rotation about the point (5, 5) in clockwise direction by 90°
 - iii) Reflection about the line joining (5, 2) (5, 5) (12 Marks)

- 3
 - a. Illustrate the three principal classifications of geometric models and their characteristic features and the geometric entities associated with their construction. (12 Marks)
 - b. Explain different types of constraints used for modeling and constraint based modeling with an example. (08 Marks)

- 4
 - a. List the Broad of categorization of modeling facilities desired in any CAD system and explain any two in detail. (06 Marks)
 - b. What are the various standards in graphics programming? Explain Layer model of GKS. (08 Marks)
 - c. Explain the file organization of IEES and the contents of six sections in an IEES file. (06 Marks)

- 5
 - a. Explain the salient features of
 - i) Hermit cubic splines
 - ii) Bezier curves
 - iii) NURBS
 With their mathematical representation. (06 Marks)
 - b. With simple sketches, explain the different types of surfaces used and the classification of surfaces. (10 Marks)
 - c. Differentiates between the implicit form and parametric representation for a circle. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.