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18MCM13

First Semester M.Tech. Degree Examination, Dec.2018/Jan.2019

Computer Aided Design

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

- 1 a. Describe the general design process with the help of a neat sketch. (10 Marks)
 b. Explain the application of computers to the design process with the help of a neat block diagram. (10 Marks)

OR

- 2 a. Discuss the benefits of computer aided design. (10 Marks)
 b. Explain different functions of a graphics package. (10 Marks)

Module-2

- 3 a. Obtain the transformation matrix for the following types of transformations:
 (i) Translation (ii) Scaling (iii) Reflection (iv) Rotation. (10 Marks)
 b. Discuss the concept mathematics of projection in detail. (10 Marks)

OR

- 4 a. Discuss the significance of geometric modeling and list the functions that are expected of geometric modeling. (10 Marks)
 b. What are the different types of geometric models? And give the comparison of different modeling methods. (10 Marks)

Module-3

- 5 a. List the modeling facilities desired and explain any two facility in detail. (10 Marks)
 b. Describe the important features of Graphical Kernel System (GKS). (10 Marks)

OR

- 6 a. Explain in brief the exchange of modeling data. (06 Marks)
 b. Give the schematic representation of developments in data exchange formats for CAD/CAM system. (04 Marks)
 c. Write short notes on Standard for the Exchange of Product Model Data (STEP). (10 Marks)

Module-4

- 7 a. Give the implicit form and parametric form for the following :
 (i) line (ii) Circle (iii) Ellipse (iv) Parabola (v) Hyperbola. (10 Marks)
 b. Explain the following surface representation methods with necessary equations:
 (i) Bezier surface. (ii) Bspline surface. (10 Marks)

OR

- 8 a. Write short notes on the following: (i) Tabulated cylinder. (ii) Sculptured surface. (10 Marks)
 b. Describe the surface of revolution. (10 Marks)

Module-5

- 9 a. Explain stereolithography with the help of a schematic diagram, also mention its merits and demerits. (10 Marks)
 b. What are the features of Rapid prototyping and give the complete classification of RP process. (10 Marks)

OR

- 10 a. Write short notes on RP information work flow. (10 Marks)
 b. With the help of a neat sketch explain Laminated Object Manufacturing (LOM). (10 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.