CBCS SCHEME

18MEA242

Second Semester M.Tech. Degree Examination, Dec.2019/Jan.2020
Computer Application in Design

Time: 3 hrs.

Max. Marks: 100

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

Module-1

1 a. How do you integrate the common database with the design and manufacturing processes? **(10 Marks)**

b. Explain the utilization of typical CAD/CAM system in an industrial environment. **(10 Marks)**

OR

2 a. Differentiate between vector and raster graphic devices. **(06 Marks)**
   b. List the CAD/CAM/CAE softwares used commercially. **(04 Marks)**
   c. Explain the functions of a graphic software. **(10 Marks)**

Module-2

3 a. Explain the window and viewport with proper sketch. **(10 Marks)**
   b. Write the homogeneous transformation matrix for:
      i)   Translation
      ii)   Scaling
      iii) Rotation. **(10 Marks)**

OR

4 a. Explain the various testing methods of IGES processor. Which test is the most comprehensive? Why? **(10 Marks)**
   b. Discuss the features of STEP format. **(10 Marks)**

Module-3

5 a. What are the common modeling steps available for surface design in a surface modeling? **(08 Marks)**
   b. Compare 2D and 3D wireframe models. **(04 Marks)**
   c. Explain the salient features of solid modeling. **(08 Marks)**

OR

6 a. Describe Hermit curve and explain its advantages. **(10 Marks)**
   b. List the properties of the Bezier curve. Explain the convex hull property of a Bezier curve. **(10 Marks)**

Module-4

7 a. Explain the characteristics of NURBS curves and surfaces with necessary equations. **(10 Marks)**
   b. Explain the interpolation surface. **(10 Marks)**

OR

8 a. Explain the bicubic patch and Coon's patch. (10 Marks)
   b. Write a short note on:
      i) Bezier surface   and
      ii) B-Spline surface. (10 Marks)

Module-5

9 a. Illustrate the importance of process planning and its advantages. (10 Marks)
   b. Discuss the principle of variant process planning with a block diagram. (10 Marks)

OR

10 a. What is group technology? What are the advantages and limitations of GT? (10 Marks)
   b. Describe the product data management systems. (10 Marks)

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