MED14 - Computer Aided Mechanical Design

P. Pages : 1

Time : Three Hours

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GUG/S/23/14189

Max. Marks : 70

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Notes :
1. All questions carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Diagrams and chemical equation should be given wherever necessary.
5. Illustrate your answers wherever necessary with the help of neat sketches.
6. Solve **any five** questions.

1. a) Differentiate between stroke writing and raster scan techniques. **7**

b) What are the various cursor control devices that can be employed in CAD systems? **7**

2. a) Develop the DDA algorithm to draw a line with slope such that $-\infty < m < -1$ **7**

b) Explain with examples role of CAD in following areas of design. **7**
i) Geometric modeling. ii) Engineering Analysis.

3. a) What are the various hardware components in the CAD system? **7**

b) Explain with examples role of CAD in following areas of design. **7**
i) Geometric modeling. ii) Engineering Analysis.

4. a) Elaborate the concept of generation of several alternate design and evaluation in CAD. **7**

b) What are the features of GKS? **7**

5. a) What are the two basic techniques used in current computer graphics terminals for generating image on the CRT screen? **7**

b) Explain Bresenham's algorithm for generation of line. **7**

6. a) What is Bezier curve? How it is defined and where it is used? **7**

b) What do you mean by Geometric modeling? **7**

7. Explain **14**
i) Spline curve
ii) Mathematical representation of Hermite cubic.

8. a) Explain the functional areas of basic CAD system and their applications in the design process. **7**

b) Describe conventional design process and computer Aided design. What are the advantages of CAD over conventional design cycle. Explain. **7**

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