tal No of Questions: [12] *SEAT NO. :*

[Total No. of Pages : 02]

[4366]-502
TYMCA (Engg. Faculty)
COMPUTER GRAPHICS
(Semester - V) (2008 Pattern) (710902)
MAY 2013 EXAMINATIONS

me: 3 Hours] *[Max. Marks : 70]*

structions to the candidates:

1) *Answer Q1 or Q2, Q3 orQ4, Q5 or Q6 from Section –I and Q7 or Q8, Q9 or Q10, Q11 or Q12 from Section -II*
2) *Answers to the two sections must be written in separate answer books.*
3) *Assume suitable data if necessary.*
4) *Draw sketches wherever necessary.*
5) *Figures to the right indicate full marks.*

SECTION I

) a) Explain mid-point circle drawing algorithm. [6]

b) Explain any two interactive devices. [6]

OR

) a) Derive the expression for decision parameter used in Bresenham's circle drawing algorithm. Explain the working of the algorithm. [6]

b) Explain various methods of character generation. [6]

3) a) Give the 3D transformation matrix for [6]
i) Rotation
ii) Scaling
iii) Translation

b) Explain the steps in scan conversion algorithm. [6]

OR

4) a) Explain the difference in working of seed fill & edge fill algorithms. [6]

b) What is the need of homogeneous coordinates? Give the homogeneous Coordinates for translation, rotation and scaling. [6]

5) a) Discuss the structure of segment table and explain any two segment operation. [6]

b) Describe Interior and exterior clipping [5]

OR

6) a) Explain Sutherland-Hodgman algorithm in detail. [6]

b) Describe viewing transformation and 2D clipping [5]

SECTION II

7) 7 a) Write a short note on parallel projection and perspective projection. (6)

b) Explain i) Scaling ii) Rotation iii) Translation w.r.t. 3D transformation. (6)

OR

8) 8 a) What is need of clipping? Explain the midpoint subdivision algorithm in 3D clipping. (6)

b) Explain 3D viewing transformation. (6)

9) 9 a) Explain the RGB and HSI color model with the help of diagrams. (6)

b) Explain the Warnock algorithm for hidden surfaces. (6)

OR

10) 10 a) Develop a model in which the light source illuminates the picture using Diffused illumination and point source illumination. (6)

b) Explain the Painters algorithm for hidden surface algorithm. (6)

11) 11 a) Explain fractal lines, fractal dimension, and fractal length in detail. (5)

b) Explain the properties of Bezier curve. (6)

OR

12) 12 a) What is interpolation? Explain any interpolation method. (5)

b) Explain the following: (6)

1) Methods for controlling Animation

2) Graphics Kernel System