K17P 1144

Reg. No. : .....

Name : .....

Second Semester M.C.A. Degree (Regular/Supplementary/ Improvement) Examination, July 2017
(2014 Admission Onwards)
MCA2C12 : COMPUTER GRAPHICS

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **any ten** questions. **Each** question carries three marks.

1. What are the properties of video display devices ?
2. Comparision between DDA and Bresenham's algorithm.
3. Define aspect ratio and refresh rate.
4. List out the matrics of the line attributes.
5. Compare and Contrast line clipping and point clipping.
6. Define antialiasing.
7. What are the uses of inverse transformations in 2D ?
8. Mention the merits of 3D-scaling.
9. What are the uses of 3D-viewing pipe line ?
10. List out the significant features of normalization in Graphics.
11. Define super quadrics.
12. What are the basic illumination models ? (10×3=30)

P.T.O.

SECTION – B

Answer **all** questions carries **ten** marks.

13. a) Give the logical classification of input devices with suitable examples, explain the working of any interactive positioning device. 10

OR

b) Write the algorithm for drawing a line using

i) DDA algorithm

ii) Bresenham method 10

14. a) What are the merits of antialiasing, discuss the various methods of super sampling straight line segments ? 10

OR

b) Explain the midpoint subdivision algorithm for clipping of lines against a rectangular window. 10

15. a) Explain the basic transformations and their matrix representations using the homogeneous Co-ordinate system. 10

OR

b) Explain rotation transformation with matrix in 3D-space. 10

16. a) What are Bezier curves ; discuss the properties and uses of Bezier curves briefly ? 10

OR

b) Discuss 3D viewing with suitable examples. 10

17. a) Differentiate between object space and image space for visible surface detection with suitable examples. 10

OR

b) Explain the following illumination models

i) Ambient light

ii) Specular reflection. 10