K16P 0821

Reg. No.: .....

Name : .....

II Semester M.C.A. Degree (Reg./Supple./Improve.) Examination, July 2016
(2014 Admn. Onwards)
MCA 2C12 : COMPUTER GRAPHICS

Time : 3 Hours Max. Marks : 80

SECTION – A

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

1. What are the merits and demerits of DDA algorithm ?
2. Mention the open GL curve functions.
3. Write the architecture of a raster-graphics system with a display processor.
4. What are the significant features of line attributes ?
5. Differentiate between window and viewport.
6. What are the features of midpoint subdivision algorithm for clipping lines ?
7. List out the properties of basic 2D transformations.
8. Compare and contrast screen co-ordinates and user co-ordinates.
9. Express the mathematical representation of perspective projection.
10. What are the steps involving for viewing coordinate transformation matrix for 3D-objects ?
11. What are the properties of ray tracing methods ?
12. List out the various types of shading and illumination techniques. **(10×3=30)**

P.T.O.

SECTION – B

Answer **all** questions, **each** question carries **ten** marks.

13. a) Discuss the features of raster scan and flat panel display systems.

OR

b) What are output primitives ? Derive the decision parameter for Mid-point algorithm.

14. a) Describe the scan-line polygon fill algorithm.

OR

b) Define the 2D-transformations. Express the basic 2D transformations in homogeneous coordinates.

15. a) Define clipping. Explain Sutherland Hodgeman Polygon clipping algorithm.

OR

b) With suitable example show that 3D-transformations are not commutative.

16. a) Define computer animation. Explain the various types of animations.

OR

b) Explain briefly orthogonal projections and perspective projections.

17. a) Explain the basic properties and characteristics of light for specific graphics applications.

OR

b) Explain the depth-buffer algorithm for hidden surface removal. **(5×10=50)**