



K19P 0921

Reg. No. :

Name :

**II Semester M.C.A. Degree (Reg./Suppl./Imp.)
Examination, July 2019
(2014 Admission Onwards)
MCA2C12 : COMPUTER GRAPHICS**

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **any ten** questions. **Each** question carries **three** marks. **(10×3=30)**

1. What are raster scan displays ? Give example.
2. List out the uses of shadow mask methods.
3. Distinguish between trackball and spaceball.
4. List out the three components color representations are useful in computer graphics application.
5. Define color blending function. Give example.
6. Distinguish between point and line attributes of OpenGL.
7. Distinguish between 2D translation and 2D rotation matrix.
8. What is 2D transformation ? Write the general matrix form of 2D.
9. Define vanishing point.
10. What are the uses of 3D viewing pipeline ?
11. Distinguish between curved surface and quadratic surfaces.
12. List out the classifications of visible-surface detection algorithm.

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SECTION – B

Answer **all** questions. **Each** question carries **ten** marks. (10×5=50)

13. a) Write and explain the algorithm for drawing a line using
- i) DDA algorithm. 5
 - ii) Bresenham's algorithm. 5
- OR
- b) Write and explain the circle generating algorithm with suitable figure. 10
14. a) Describe in detail the clipping algorithm with suitable example. 10
- OR
- b) Explain the concept of OpenGL line attribute and line attribute functions with suitable examples. 10
15. a) Explain the 2D-composite transformation and computational efficiency with example. 10
- OR
- b) Explain in detail the reflection and shear transformation with suitable figure. 10
16. a) Explain 3D-point and line clipping with suitable figure. 10
- OR
- b) Explain the normalization perspective projection transformation coordinates with suitable figure. 10
17. a) Explain the following illumination models
- i) Diffuse reflection. 5
 - ii) Phong model. 5
- OR
- b) What are the classification of visible surface detection algorithm? Explain the back-face and depth-buffer method with suitable example. 10