

Sixth Semester B.C.A. Degree Examination, September 2020

(CBCS Scheme)

Computer Science

COMPUTER GRAPHICS

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Answer all the Sections.

SECTION - A

I. Answer any **TEN** questions : (10 × 1 = 10)

1. What is Computer Graphics?
2. Define Persistence.
3. What is Transformation?
4. Define Skewing.
5. What do you mean by viewport?
6. What is Blanking?
7. Mention the types of oblique projection.
8. Write the matrix representation of shear in 3D-transformation.
9. What is Depth Buffer?
10. What is constraint?
11. Write any one advantages of Rubber-Band technique.
12. Define menu.

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SECTION – B

II. Answer any **FIVE** questions :

(5 × 3 = 15)

13. Mention any six graphics software.
14. Explain shadow mark technique.
15. What is homogeneous co-ordinates and explain?
16. Explain midpoint subdivision algorithm for line clipping.
17. Explain the properties of Bezier curves.
18. Describe the features of Joystick.
19. Explain Dragging.

SECTION – C

III. Answer any **SIX** questions :

(6 × 5 = 30)

20. Explain the applications of Computer Graphics.
21. With neat diagram explain Cathode Ray Tube.
22. Explain Shear Transformation in 2D and 3D Transformation.
23. Explain Sutherland-Hodgeman Polygon clipping algorithm.
24. Explain the different methods of Text clipping.
25. Briefly explain Octree with its node.
26. What is sweep representation and explain its types.
27. Define segment. Explain the attributes of segment.

IV. Answer any **FIVE** questions :

(5 × 7 = 35)

28. Explain Random scan monitor and Raster scan monitor.
29. (a) Write an algorithm to draw DDA line drawing technique.
(b) Write an algorithm to draw mid-point circle drawing. (4 + 3)
30. Explain 2D-Transformation.
31. What is Line clipping? Explain Cohen-Sutherland Line clipping algorithm.
32. Explain Polygon surface and Polygon table with an example diagram.
33. Explain 3D Transformations : Translation, Scaling and Rotation, with matrix representation.
34. Explain the terms :
 - (a) ADD
 - (b) Right Hand co-ordinate system
 - (c) Window
 - (d) Intensity cueing
 - (e) Frame Buffer
 - (f) Fractals
 - (g) Gravity Field

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