Bhartiya Institute of Engineering & Technology, Sikar

Computer Graphics & Multimedia Technique (Sub Code: 6CS4A)

Question Bank

UNIT I

1. Explain various application areas of computer Graphics. Differentiate beam penetration method of colored CRT with shadow mask method.
2. What steps are required to plot a line whose slope in between 0 and 45 degree using Breshnam's method? Indicate the raster location would be chosen by Breshnam's algorithm when scan converting a line from screen coordinate a line from screen coordinate (20, 10) to (30, 18).
3. Give the advantages and disadvantages of DDA line drawing algorithm.
4. Write down algorithm for midpoint circle algorithm with an example.
5. Explain the following terms in context of display devices:
    - Resolution
    - Flickering
    - Interlacing
    - Refreshing

UNIT II

6. Show rotation of a 2D box represented by (5, 5) to (10, 15) with respect to (5, 5) by 90 Degree in Anticlockwise direction.
7. Explain Flood Fill Algorithm; differentiate it with boundary fill algorithm.
8. Explain Cohen Sutherland line clipping Algorithm with an example.
9. Explain Sutherland Hodgeman polygon clipping Algorithm with an example.
10. Show that the concatenation of two rotation is additive.
11. Derive composite rotation matrix of translation followed by reflection.

UNIT III

12. Explain the Scan line method for displaying the visible surface of a given polyhedron.
13. Differentiate B-Spline curves with Bazier curves.
14. What is hidden surface problem? Write and Explain Z-Buffer algorithm for visible surface detection.
15. How image space method is different form object space method? Explain.

16. What is perspective representation? Explain various types of perspective projection.
17. During area filling one start with a point inside a polygon region and point it outwards towards boundary. Which fill algorithm is this? Explain it showing how 8-Connected approach fills complex figures.

UNIT IV

18. Write short note on the following:
    - Gourard Shading
    - Phong Shading
    - Ray Tracing
19. Discuss about the difference between CMY and RGB color.
20. What are diffused and specular reflections? Write down the illumination model that incorporates both these reflection. Explain all the variable used in this model.
21. Write short note on the following:
    - Antialiasing ray tracing
    - Binary Ray Tracing
22. What is HSV color method?

UNIT V

23. Write short note on the following:
    - SCSI
    - MIDI
24. Explain the TIFF file format with its merits and demerits.
25. What do you mean by frame rate and pixel depth in digital video?
26. Write short note on the following:
    - Animation techniques
    - Multimedia storage technologies
    - Architectural and telecommunication considerations
27. What are Multimedia authoring tool?
28. Explain different type of data compression technology.
29. Define Animation. Explain principles of animation briefly.
30. Explain Steps of Animation in detail.