

B.TECH. DEGREE EXAMINATION, APRIL 2011**Seventh Semester**

Branch : Computer Science and Engineering

COMPUTER GRAPHICS (R T)

(Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.***Part A***Each question carries 4 marks.*

1. Explain a Vector Refresh system.
2. Enumerate the fields of application of Computer Graphics.
3. What is Bresenham's line drawing algorithm?
4. Explain the non-zero winding number rule.
5. What is meant by scan converting a polygon?
6. Explain mid-point subdivision algorithm for polygon clipping.
7. Distinguish between Window and View point.
8. What is meant by black-face detection?
9. Define illumination model and shading.
10. What are Fractals?

(10 × 4 = 40 marks)

Part B*Each question carries 12 marks.*

11. Briefly explain working of any *two* interactive graphic input devices. What is the general structure of the input device?

Or

12. Compare the functions performed by display processors in random scan and in vector scan systems.
13. Distinguish between single DDA algorithm and symmetrical DDA algorithm.

*Or***Turn over**

14. A point defined by the co-ordinates P (3, 4) is translated by 5 units in x and y divisions; scaled by 2 units x and y and then rotated by 45° in clock-wise then what will be transformed point?
15. Explain the use of Bezier curves in 3D and the 3D object representation.

Or

16. Discuss applications of Gourand Shading and Ray-Tracing methods.
17. Make a comparative analysis of the visible surface detection algorithm in 3D rendering.

Or

18. Explain the Gourand shading and Ray-Tracing methods.
19. Discuss the Animation technique stressing Raster Animation and Morphing methods.

Or

20. Write a Fractal Image generation algorithm and show how it can be used in Animation application.

(5 × 12 = 60 marks)