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Reg. No. :

**Question Paper Code : 65005**

5 Year M.Sc. DEGREE EXAMINATION, MAY / JUNE 2013.

Fourth/Fifth Semester

Software Engineering

XCS 354 / 10677 SW 405 – COMPUTER GRAPHICS

(Common to 5 Year. M.Sc – Computer Technology and  
5 Year M.Sc. Information Technology)

(Regulation 2003 / 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Pixel and Resolution.
2. What do you mean by virtual reality?
3. Define Antialiasing.
4. What is odd-even rule in inside-outside test?
5. State the difference between interior clipping and exterior clipping.
6. Differentiate Window Cueing.
7. Define Depth Cueing.
8. Define parallel projection. Give an example.
9. What is the difference between object-space method and image-space method?
10. Define Morphing.

PART B — (5 × 16 = 80 marks)

11. (a) (i) With a neat diagram explain the working of CRT. (8)
- (ii) Discuss in detail about various hard copy devices. (8)

Or

- (b) (i) Explain about various applications of computer graphics. (8)
- (ii) Compare and contrast Random-scan and Raster-scan systems. (8)

12. (a) Explain Bresenham's Line drawing algorithm and illustrate the algorithm with two endpoints as (20,10) and (30,18) with slope as 0.8. (16)

Or

- (b) Discuss about Mid-point circle drawing algorithm and illustrate the algorithm with (0,0) as center point and radius=6. (16)

13. (a) Define clipping. Explain Cohen-Sutherland line clipping with suitable example. (16)

Or

- (b) Discuss about various 2D transformations with appropriate diagram and matrix representation. (16)

14. (a) (i) Write a detailed note on spline representations. (8)  
(ii) Explain about viewing pipeline and viewing co-ordinate in 3D graphics. (8)

Or

- (b) (i) Briefly discuss about Octrees and its applications. (8)  
(ii) Describe Fractal-Geometry method for object representation. (8)

15. (a) (i) Briefly explain about Depth buffer method. (8)  
(ii) Discuss about several ways of motion specification. (8)

Or

- (b) (i) Explain various steps involved in designing the animation sequence. (8)  
(ii) Write a short note on BSP tree method. (8)