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5/6/13 PN

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**Question Paper Code : 65229**

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

Fourth Semester

Software Engineering

ESE 044 – COMPUTER GRAPHICS

(Regulation 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is digitization?
2. State the advantages of LCD display.
3. What is antialiasing?
4. State the side effects of scan conversion.
5. Distinguish between window and viewpoint.
6. What is two dimensional affine transformation?
7. Define image space and object space.
8. Give the concept of spline in three dimensions.
9. Specify the limitations of animation.
10. Write the concept of Z buffer algorithm.

PART B — (5 × 16 = 80 marks)

11. (a) (i) List out some applications of computer graphics in detail. (6)  
(ii) Explain the working of direct view storage tube. (10)

Or

- (b) (i) What is refresh buffer? Explain. (6)  
(ii) Explain the various types of printers. (10)
12. (a) (i) Compare and contrast DDA and Bresenham's line drawing algorithm. (6)  
(ii) Given radius  $r$ , screen center position  $(X_c, Y_c)$  and circle function  $x^2 + y^2 - r^2$ , write the algorithm to draw a semi circle. (10)

Or

- (b) (i) Discuss the meaning of bitmap and pixel map. (6)  
(ii) Explain any two character generation methods. (10)
13. (a) (i) Write Sutherland – Hodgeman polygon clipping algorithm. (10)  
(ii) What is sharing? Explain. (6)

Or

- (b) (i) Give the Cohen Sutherland line clipping algorithm. (8)  
(ii) Explain matrix representation for two dimensional transformations. (8)
14. (a) (i) Write a note on parallel projection. (6)  
(ii) What is 3D viewing? Explain steps used in 3D viewing. (10)

Or

- (b) (i) What is perspective projection? Explain. (6)  
(ii) Explain various forms of representing curves. (10)
15. (a) (i) List out the steps used in animation sequence with respect to wire frame model. (6)  
(ii) Describe an algorithm for eliminating hidden lines and surface. (10)

Or

- (b) (i) Explain the steps in the painter's algorithm. (6)  
(ii) Explain area subdivision method with an example. (10)