E 5754 (Pages : 2) Reg. No.....

Name.....

B.C.A. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2018

Third Semester

Core Course—COMPUTER GRAPHICS

[2013 to 2016 Admissions]

Time : Three Hours Maximum Marks : 80

Part A (Short Answer Questions)

Answer **all** *questions.*
Each question carries 1 *mark.*

1. The standard aspect ratio for PC is ————.
2. On a monochromatic monitor, the frame buffer is known as ————.
3. The Cartesian slope intercept equation for a straight line is ————.
4. A circle, if scaled only in one direction becomes a ————.
5. The transformation in which an object is moved in a minimum distance path from one position to another is called ————.
6. The region against which an object is clipped is called a ————.
7. How many data elements for each region in quad-tree data structure ?
8. ———— is a label set of output primitives and its associated attributes.
9. A three dimensional graphics has ————.
10. ———— are the three dimensional analogs of quad trees.

(10 × 1 = 10)

Part B (Short Answer Questions)

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. What is meant by scan code ?
12. What do you mean by emissive displays ?
13. What is persistence ?
14. What is meant by clipping ?
15. What is meant by view point ?
16. What is point in the computer graphics system ?
17. What is cell array ?

Turn over

18. Distinguish between convex and concave polygons.
19. What is meant by structure element ?
20. What is the use of pick devices ?
21. What is vanishing point ?
22. What is projection reference point ?

(8 × 2 = 16)

Part C (Short Essay Type Questions)

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. Comment on any eight applications of computer graphics.
24. Consider a raster system with the resolution of 1024 × 768 pixels and the color palette calls for 65,536 colors. What is the minimum amount of video RAM that the computer must have to support the above mentioned resolution and number of colors ?
25. Explain about the DDA scan conversion algorithm.
26. Explain Liang Barsky line clipping.
27. Explain the two dimensional translation and scaling.
28. Write about diffeernt modes of graphical input functions.
29. Differentiate parallel projection from perspective projection.
30. Write a brief note on different types of curves.
31. What are the advantages and disadvantages of polygon mesh ?

(6 × 4 = 24)

Part D (Long Essays)

Answer any **two** *questions.*
Each question carries 15 *marks.*

32. Explain the operation of CRT in detail.
33. Explain about Bresenham's circle generating algorithm with example.
34. Discuss interactive picture construction techniques.
35. Explain about 3D object representations.

(2 × 15 = 30)