18U419   (Pages: 2)   Name: ………………………

                                                            Reg. No…………………...

FOURTH SEMESTER B.C.A. DEGREE EXAMINATION, APRIL 2020
(CUCBCSS-UG)
(Regular/Supplementary/Improvement)
CC17U BCA4 C08 - COMPUTER GRAPHICS
(Complementary Course)
(2017 Admission onwards)

Time: Three Hours   Maximum: 80 Marks

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

1. GIMP stands for ……………

2. Define frame buffer.

3. Define clipping.

4. Name an additive color model.

5. DDA stands for ……………

6. The intersection of three primary RGB color produces …………… color.

7. The maximum number of points that can be displayed without overlap on CRT is ……………

8. Write the equation for 2D rotation with respect to pivot point.

9. Give the initial decision parameter equation for Bresenham's circle drawing algorithm.

10. A world coordinate area selected for display is called ……………

                                                            (10 x 1 = 10 Marks)

PART B
Answer *all* questions. Each question carries 2 marks.

11. What is shear? explain different types.

12. What do you mean by YIQ color model?

13. Define persistence.

14. Why the homogeneous coordinates are used?

15. What is Hue?

16. Give the properties of light.

17. Define window and viewpoint.

18. Explain 2D rotation, Give matrix formation of scaling.

                                                            (8 x 2 = 16 Marks)

PART C

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

19. Describe how to clip the given lines using Cohen - Sutherland line clipping algorithm. Explain the above with suitable example and equations.

20. Discuss RGB and CMY Color models.

21. Differentiate between LCD and LED monitors.

22. Explain DDA line drawing algorithm.

23. Differentiate Raster and Random scan displays.

24. What is meant by window-to-viewport transformation?

25. Write a note on reflection.

26. Give a detailed account of applications of graphics.

27. Explain scanline polygon filling algorithm.

(6 x 4 = 24 Marks)

PART D

Answer any *three* questions. Each question carries 10 marks

28. What is GIMP? Explain image manipulation using GIMP.

29. Explain basic 2D transformations in detail.

30. Describe Sutherland and Gray Hodgman Polygon Clipping Algorithm with example.

31. Explain the working of CRT monitors in detail with suitable diagrams.

32. Write midpoint circle algorithm and apply that algorithm to find the pixel values of the circle whose radius r = 4 and Centre of the circle is (0, 0).

(3 x 10 = 30 Marks)

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