2018

MCA 4th Semester Examination

COMPUTER GRAPHICS LAB.

PAPER—MCA-406

Subject Code—32

(Practical)

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer any *one* question. 1×35

1. Write a program to implement Bresenham's circle generation algorithm.

2. Write a program to display the initials of your name using any standard line drawing algorithm.

3. Write a program to implement x-direction shear.

4. Write a program to show any 3 standards of 2D reflection.

5. Write a program to rotate a line with respect to an arbitary point.

6. Write a program to generate a hexagon using DDA line drawing algorithm.

7. Write a program to show that "two parallel lines remains parallel even after transformation.

8. Write a program to draw five concentric circle of different colors using any standard circle generation algorithm.

9. Write a menu driven program to do the following transformation w.r.t. origin :

   (i) Translation

   (ii) Scaling

   (iii) Rotation.

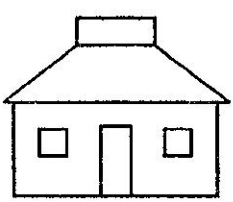
10. Write a program to do the following sequential transformation :

    (i) Scaling a square w.r.t. to an arbitary point (point should be the bottom left vertex of the square).

    (ii) Then reflect the scaled square w.r.t. the st. line y = x.

11. Write a program to implement y-direction shear.

12. Write a program to draw the below figure using inbuilt function :



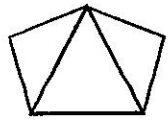
Answer any *one* question. 1×35

13. Write a program to draw a line from (40, 40) to 9100, 200) using DDA algorithm.

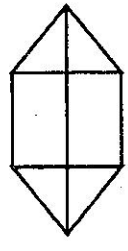
14. Write a program to draw a line from (400, 100) to (50, 50) using Bresenham's line drawing algorithm.

15. Write a program to draw a circle with center at (200, 200) and radius 50 using Bresenham's circle drawing algorithm.

16. Write a program to draw a pentagon with two lines as shown below :



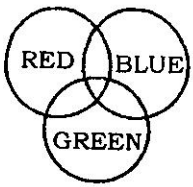
17. Write a program to draw a hexagon with three lines as shown below :



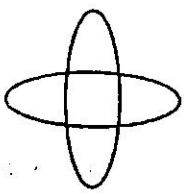
18. Write a program to draw a Benzier curve.

19. Write a program to draw B-spline curve.

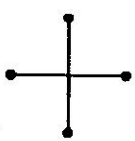
20. Write a program to draw the following circles filled with color as shown below :



21. Write a program to draw to ellipses as shown below :



22. Write a program to draw the following two intersecting lines and then rotate both of them by 45° angle :



23. Write a program to draw a line y = x and then reflect it around Y-axis.

24. Write a program to draw a triangle and reflect it around X-axis.

Viva-voce : 15

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