2017

MCA

4th SEMESTER EXAMINATION

COMPUTER GRAPHICS LAB

PAPER—MCA-406

(Practical)

Full Marks : 50

Time : 3 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 draw a polygon using any standard line drawing algorithm.

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

3. Write a program to show that "Two parallel lines remains parallel even after transformation".

4. Write a program to show all standards of 2D reflections.

5. Write a program to draw two concentric circle using any standard line drawing algorithm.

6. Write a program to show standards of shear transformation.

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

(i) First a line is rotated by an angle of 90°.

(ii) Then, the rotated line is reflected along X-axis.

(iii) Lastly it is translated by the translation vector having the value $f_x = f_y = 20$.

Also display the all sequential transformation and the final transformation matrix.

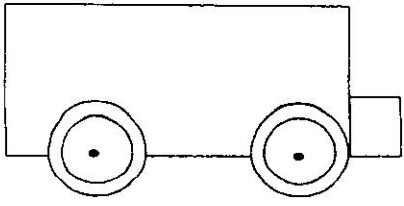
8. Write a menu driven program to show the following transformation :

(i) Scaling w.r.t. arbitrary point.

(ii) Rotation w.r.t. arbitrary point.

(iii) Reflection w.r.t. the st. line $y = -x$.

9. Write a program to draw the following figure using inbuilt function.



10. Write a program to print the first initial of your name using DDA line drawing algorithm.

11. Write a program (menu driven) to do the following transformation (w.r.t. origin),

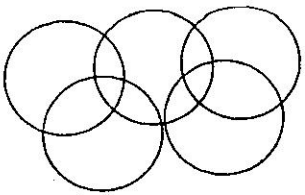
(i) Translation.

(ii) Scaling.

(iii) Rotation.

(iv) Reflection (along X axis, Y axis & origin).

12. Write a program to draw the following figure using any standard circle generation algorithm.



Viva Voce : 15 marks
