2017

M.Sc.

1st Semester Examination

COMPUTER SCIENCE

PAPER—COS-106

Subject Code—26

(Practical)

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

(Computer Graphics Lab.)

Answer any *one* question.

[Marks : 35]

1. Write a program to draw a hexagon using any standard line drawing algorithm.

2. Write a program to draw multicolor concentric circle using any circle generation algorithm.

3. Write a program to show all standards of 2D reflections and rotation.

4. Write a program to show that the reflection along the line $y = x$ is equivalent to the reflection along x-axis followed by counter clockwise rotation by 90°.

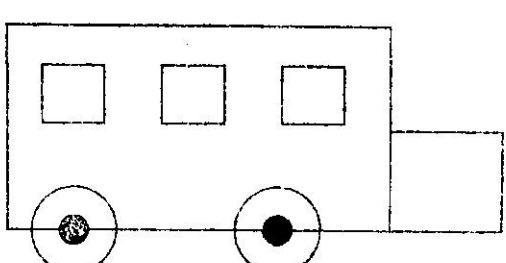
5. Write a menu driven program to do the following 2D transformation about origin :

   (i) Translation ;

   (ii) Rotation ;

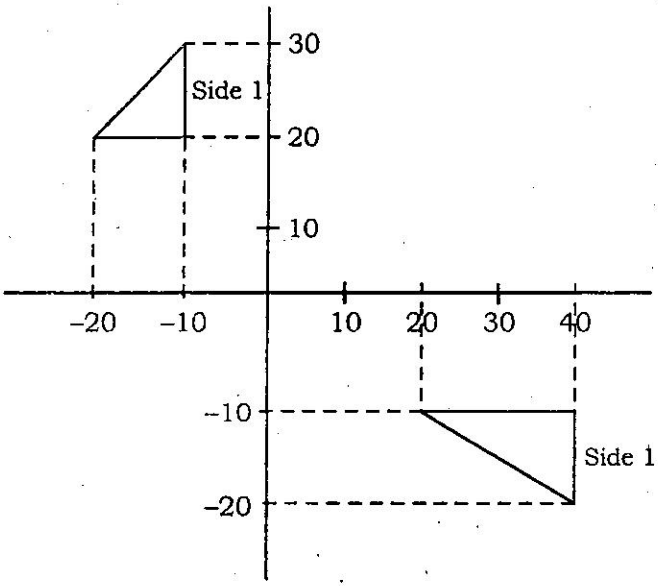
   (iii) Shear (both X and Y direction).

6. Write a program to display the below figure :



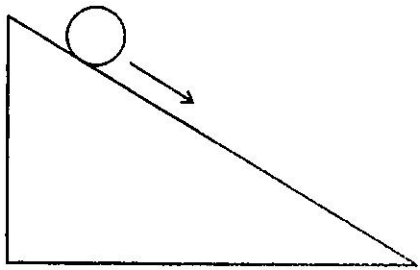
7. *A triangle is located at P(10, 40), Q(40, 40), R(40, 30).* Display the transformed location of triangle after its rotation by 90 degree (CCW) about point Q.

8. For the following figure generate the transformation :



9. A polygon is define by vertices (x, y), (3x, y), (3x, 3y) and (x, 3y) in order to be transformed so that its area is reduced by half. Display both the position of the polygon after transformation and before transformation.

10. A circular disc of diameter 'd' is rolling down the inclined plane starting from the rest. Assume there is no slip. Develop the set of instructions required to produce this animation.



Viva-Voce : 10 Marks

Practical Note Book : 05 Marks
