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Register Number:

DATE:

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27**

**IV Semester Examination, April 2018**

**B C A-IV SEMESTER**

**CA 4115 :COMPUTER GRAPHICS**

**Time 2.5 Hrs Max Marks 70**

**I.Answer all TEN questions 2 x10 = 20**

1. Define the terms Resolution and Aspect ratio.
2. Explain any one application of computer graphics.
3. Give the differences between DDA and Bresenham’s line drawing algorithms.
4. List the attributes associated with a line.
5. Define composite transformation.
6. Differentiate a window from a viewport.
7. How is point clipping implemented? Illustrate with an example.
8. Compare the functioning of a joystick and a trackball.
9. What are polygon surfaces?
10. What is meant by back face removal?

**Answer any FIVE questions 6 x5 = 30**

1. Explain the working of shadow mask CRT with a neat diagram.
2. Explain DDA circle drawing algorithm with an illustration.
3. Explain general pivot point Rotation with an illustration.
4. Explain 3D rotation with supportive diagram.
5. List out the differences between Object space and Image space algorithms.
6. Explain Cohen Sutherland Line clipping algorithm.
7. Write a program to draw a straight line using DDA technique.

**Answer any TWO questions 10 x2 = 20**

1. Explain the Midpoint circle algorithm. Assume 5 cm as the radius and coordinate (5,5) as the centre of the circle.
2. Explain all 2D transformations with examples and along with their matrix representations.
3. Write a short note on a)Keyboard b)Light pen.