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Roll No.....

MCA-403

M.C.A. IV Semester

Examination, May 2018

Computer Graphics And Multimedia

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. Describe with neat diagram the working of DVST. Write its advantages and disadvantages.

2. Give the complete implementation in C/C++ of mid-point algorithm to generate the circle $(x+2)^2+(y-3)^2 = 9$.

3. Find equation of line $y' = mx' + b$ in x, y co-ordinate if the x', y' co-ordinate system results from a 90 degree rotation of x, y co-ordinate system.

4. Obtain mirror reflection of Δ ABC about the line passing through (4, 6) and (10, 15) where A, B and C has co-ordinate values (0, 10), (0, 50), (–20, 30) respectively.

5. A rectangular clipping window has two opposite vertices located at (0, 20) and (20, –20). Use Cohen Sutherland algorithm to find visibility of the line segment from (30, 30) to (50, 0) against the given below.

6. Derive window to viewport transformation.

7. A Bezier curve is to be drawn using the rectangular points A (40, 40), B (10, 40), C (60, 60) and D (60, 0). Find the equation of Bezier curve and midpoint of this curve. Also draw its rough sketch.

8. Answer any four of the following: **rgpvonline.com**

   a) A frame buffer has a size 1024×1024 with 12 bit per pixel. Compute the time required to load it, if transferred rate is 12 bit per second.

   b) Show that two successive scalings are commutative.

   c) Differentiate Gouraud shading and Phong shading.

   d) Distinguish between parallel and perspective projection.

   e) What do you understand by Multimedia?

   f) What are the different Animation techniques?

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