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MCA-403

M.C.A. IV Semester

Examination, June 2020

Computer Graphics And Multimedia

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Describe the major application areas of computer graphics. 7
b) Write in brief about various interactive input devices. 7
2. a) Write a procedure for thick line using Bresenham's algorithm. 7
b) Write mid point circle generation algorithm and by using it find the points needed to generate quarter part of circle
 $(x+2)^2 + (y-1)^2 = 16$ 7
3. a) What are the different graphics primitives? Explain them with examples. 7
b) Explain aliasing and antialiasing with suitable examples. 7
4. a) Show that the rotation about the origin can be done by performing three shearing transformations. 7
b) Describe the following colour models in brief 7
 - i) CMY
 - ii) YIQ

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5. a) What is the importance of normalized device co-ordinate system? Derive window to view port transformation. 7
b) Using Cohen-Sutherland outcode algorithm clip two lines $P_1 (70, 20) - P_2 (100, 10)$ against a window $a (50,10), C (80, 40)$. 7
6. a) Find equation of Bezier curve defined by the control points $(2,1), (3, 2), (5,0)$ and $(6, 2)$. Draw the curve and find its midpoints. 7
b) Distinguish between parallel and perspective projection describe how a 3-dimensional object is presented in 2-dimensional screen using different types of parallel projections. 7
7. a) What is Multimedia? Describe application areas and its main properties. 7
b) Compare various multimedia file formats. 7
8. Write in brief about the following: 14
i) Back face removal
ii) Authoring tools

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