

**Section–C** **2×16=32**

**(Long Answer Type Questions)**

*Note* :- Answer any *two* questions. You have to delimit your each answer maximum up to **500** words. Each question carries 16 marks.

10. What is Computer Graphics ? Indicate the importance of this discipline in computer science by giving suitable examples.
11. Write short notes on the following :
  - (a) B-spline curve
  - (b) Random Scan System
12. Describe Cohen Sutherland line clipping algorithm with examples.
13. How do 'Computer Graphics' differ from 'Animation' ? List and explain various steps involved in the design of animation sequence.

## **MCA-301**

**December – Examination 2022**

**MCA (IIIrd Year) Examination**

**COMPUTER GRAPHICS**

**Paper : MCA-301**

*Time : 3 Hours ]*

*[ Maximum Marks : 80*

*Note* :- The question paper is divided into three Sections A, B and C. Write answers as per the given instructions.

**Section–A** **8×2=16**

**(Very Short Answer Type Questions)**

*Note* :- Answer all questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 2 marks.

1. (i) Briefly describe about the various hard copy devices.

- (ii) What is the disadvantage of DDA Algorithm ?
- (iii) Define aspect ratio and explain how relative proportions of objects can be maintained on your system.
- (iv) What is Parallel Projection ? Give an example and its significance.
- (v) Why Seed Fill Algorithm is used ? Explain.
- (vi) What do you mean by Oblique Projection ?
- (vii) What is Pixel ?
- (viii) Give an example of composite transformation.

**Section-B** **4×8=32**

**(Short Answer Type Questions)**

**Note** :- Answer any *four* questions. Each answer should not exceed **200** words. Each question carries 8 marks.

- 2. What steps are required to plot a line whose slope is between 0 to 45 using Bresenham's method ? Indicate which raster locations would be chosen by Bresenham's algorithm when scan-converting a line from screen coordinate (1, 2) to (7, 8).
- 3. Why do we need the concept of shading in computer graphics ? Briefly discuss different types of shading techniques.
- 4. Explain the boundary fill algorithm for polygon with an example.
- 5. What is parallel projection and its type in detail ?
- 6. How to find the depth of one plane of a polygon using Z-Buffer method's algorithm ? Give its drawback.
- 7. Explain supersampling, area sampling and pixel phasing in antialiasing.
- 8. Describe working of CRT monitor with neat diagram.
- 9. What is general projection transform ? How is it significant ? Illustrate.