

7. What is composite transformation ? Perform rotation of triangle A(4, 1), B(5, 2) and C(4, 2) by 90 degree about point A ?
8. Describe briefly Bresenham's algorithm. Draw a line from (0, 0) to (-6, -4) by using Bresenham's algorithm.
9. Explain Flood filling and Boundary filling methods. Give its *two* real life examples where they are used.

## **MCA-301**

**June – Examination 2022**

### **MCA (IIIrd Year) Examination**

**COMPUTER GRAPHICS**

**Paper : MCA-301**

*Time : 1½ Hours ]*

*[ Maximum Marks : 80*

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

**Section-A**

**4×4=16**

**(Very Short Answer Type Questions)**

*Note :-* Answer any *four* 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 4 marks.

1. (i) With a suitable figure, describe the shadow masking techniques in CRT.
- (ii) Explain the following :
  - (a) Phong Shading
  - (b) Gourand Shading
- (iii) Define the following :
  - (a) Persistence
  - (b) Resolution with respect to CRT
- (iv) What is Bazier Curve ? Give an example and its significance.
- (v) Name any *two* interactive graphics input devices.
- (vi) Name any *two* polygon clipping algorithms.
- (vii) Differentiate parallel and perspective projection.
- (viii) What are the advantages and disadvantages of DDA line drawing algorithm ?

**(Short Answer Type Questions)**

*Note* :- Answer any *four* questions. Answer should not exceed **200** words. Each question carries 16 marks.

2. Explain mid-point circle generation algorithm.  
Draw a circle having center (0, 0) and radius 9 using this algorithm.
3. Explain the various application of Computer Graphics in detail with suitable examples.
4. Explain the boundary fill algorithm to fill a 8-connected regions with an example.
5. What is parallel projection ? Describe orthographic and oblique parallel projection in detail.
6. Explain A-Buffer method's algorithm. Give its important advantages over Z-Buffer algorithm.