

Roll No. ....

**97678**

**BCA 5th Semester (New)  
Examination – November, 2017**

**COMPUTER GRAPHICS**

**Paper : BCA-302**

***Time : Three Hours ]***

***[ Maximum Marks : 80***

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt *five* questions in all, by selecting *one* Question from each Unit. Question No. 1 is **compulsory**. All questions carry equal marks.

1. Explain the following : 4 × 4 = 16
- (i) Application area of Computer Graphics
  - (ii) Window to view port coordinate Transformation
  - (iii) Hermite Curve
  - (iv) Viewing Pipeline

**UNIT – I**

2. (i) What do you mean by Raster Scan and Random Scan Systems ? Explain. 8

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(ii) Give a complete description about Beam penetration and shadow mask method. 8

3. (i) What do you mean by Interactive Input Devices? Explain. 8

(ii) Explain Bresenham's Line Algorithm in detail. 8

#### UNIT – II

4. What do you mean by 2-D Geometric Transformations? Explain in detail. 16

5. Explain the following : 8 + 8 = 16

(i) Sutherland Hodgeman Polygon Clipping Algorithm

(ii) Cyrus backline clipping Algorithm.

#### UNIT – III

6. Describe : 8 + 8 = 16

(i) Polygon Rendering Methods.

(ii) Bezier and B-spline curves.

7. Explain in detail about 3-D object representation. 16

#### UNIT – IV

8. What do you mean by 3-D Geometric Transformations? Also explain the following : 8 + 8 = 16

(i) Composite Transformations

(ii) Shear Transformation

9. Write short notes on : 8 + 8 = 16

(i) Viewing Coordinates

(ii) General Projection Transform