

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