97678

BCA 5th Semester (New)
(Full & Reappear)
Examination, March–2021

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, selecting *one* question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

1. (a) Explain overview of Graphics Systems.

    (b) Define Output Primitives.

    (c) Explain Co-ordinate Transformations.

(d) Explain Reflection Transformation in 2-D Transformations.

(e) Define Emissive Devices.

(f) Define persistence in CRT.

(g) Explain Uniform B-spline Curve.

(h) Explain Scaling Transformation in 3-D Transformations. 2×8=16

Unit–I

2. (a) Define Video Display Devices.

(b) Differentiate between Raster Scan and Random Scan Systems.

3. (a) Explain Mid-point Circle Algorithm.

(b) Explain Scan Line Polygon Fill Algorithm. 16

Unit–II

4. What are two dimensional transformations? Explain how transformations are represented in matrix?

5. Define Cyrus-beck line clipping algorithm. Explain its advantages and disadvantages over Cohen-Sutherland algorithm. 16

Unit–III

6. Write short notes on the following :

(a) Hermite Curve

(b) Bezier and B-Spline Surfaces

7. Define the various Polygon-rendering Methods. Explain in detail. 16

Unit–IV

8. Explain Translation, Shearing and Rotation in three dimensional transformations. How these transformations produce effects to the graphics objects?

9. What is Viewing Pipeline ? How viewing operation is performed in 3-D Geometry ? 16