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Roll No. ....

PAPER ID—14536

B.C.A. EXAMINATION, 2024

(Fifth Semester)

COMPUTER GRAPHICS

Code : BCA-302

Time : 3 Hours

Maximum Marks : 80

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

**Note :** Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. (a) CRT  
(b) Random Scan  
(c) Reflection  
(d) Frame  
(e) Surface  
(f) Curve  
(g) 3-D Viewing  
(h) Clipping.

#### Unit I

2. (a) What do you mean by Computer Graphics ? What are its types ?  
(b) Describe the various Graphics input devices.
3. (a) What is scan line polygon fill algorithm ?  
(b) Explain the mid point circle and ellipse algorithms.

## Unit II

4. (a) What are the various Geometric transformations ? Explain it with example.
- (b) Explain the various coordinate transformation by using suitable example.
5. (a) Explain the viewing coordinate reference frame with example.
- (b) What is Cyrus-beck line clipping algorithms ? Explain it with the help of example.

## Unit III

6. What do you mean by spline representation ? Explain it with the help of suitable example.
7. (a) What is Hermite curve ? What is the use of hermite curve ?
- (b) Differentiate Bezier curve and B-Spline curve.

## Unit IV

8. (a) What is the difference between Reflection and Shear transformations ?
- (b) Explain the Rotation and Scaling in 3 D Geometric Transformation.
9. What do you mean by View volume and General projection transforms ? Explain with the help of suitable examples.