



## **ED-634**

M.Sc. 3rd Semester  
Examination, March-April 2021

### **COMPUTER SCIENCE**

Paper - II

Computer Graphics

*Time* : Three Hours]      [*Maximum Marks* : 100

[*Minimum Pass Marks* : 40

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**Note** : Answer any **two** parts from each question. All questions carry equal marks.

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#### **Unit-I**

1. (a) What do you mean by Computer Graphics? Explain various applications of Computer graphics.
- (b) What is a video controller? How does video controller works? Explain.
- (c) What are the Graphics output devices? Explain any two output device in brief.

#### **Unit-II**

2. (a) Explain DDA-Line drawing algorithm with suitable example.

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- (b) Explain Bresenham's circle generating algorithm.
- (c) Write short notes on any **two** of the following :
  - (i) Scan-line polygon fill
  - (ii) Boundry fill
  - (iii) Mid-point circle algorithm

**Unit-III**

- 3. (a) Explain the following transformation with the matrix representation. Give suitable diagram for illustration :
  - (i) Translation
  - (ii) Scaling
  - (iii) Rotation
- (b) Explain Sutherland-Hodgman polygon clipping algorithm.
- (c) Write short notes on any **two** of the following :
  - (i) Window and view point
  - (ii) Reflection
  - (iii) Projection

**Unit-IV**

- 4. (a) What is Bezier curve? Explain various properties of Bezier curve.
- (b) What do you mean by B-spline curve? Explain in detail.

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- (c) Write short notes on the following :
- (i) Cubic spline
  - (ii) Hidden surfaces

**Unit-V**

5. (a) What is Fractal's geometry ? Describe the fractal generation procedure and classification of Fractal.
- (b) Describe the Shading model in detail.
- (c) Discuss various color models used in Computer Graphics.
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