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

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

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.

(*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.

(*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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