OLE-24253

B. Tech. 5th Semester (CS & IT) Examination – April, 2021

COMPUTER GRAPHICS

Paper : CSE-303-F

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

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. Write short note on the following : $4 \times 5 = 20$

   (a) Types of Computer Graphics

   (b) Filled area algorithms

   (c) Window to viewport mapping.

   (d) Shadowing

   (e) Interpolation method

UNIT – I

2. Explain Bresenham's Line algorithm in detail. How it is better than DDA ? Explain.   20

3. What is Computer Graphics ? Explain its various application. What types of hardware and software are used for Computer Graphics ? Explain in detail.   20

UNIT – II

4. What is clipping ? Explain Sutherland Hodgeman polygon clipping algorithm in detail.   20

5. What is Two-Dimensional transformation ? Explain its types and matrix representation for each.   20

UNIT – III

6. What is projection ? Explain its types in detail.   20

7. What is hidden surface removal ? How we apply hidden surface removal algorithms ? Explain its techniques.   20

UNIT – IV

8. (a) What is illumination ? Explain its models in brief.

              10

    (b) What is an image ? Explain geometric transformation of images.   **10**

9. What is shading ? Explain various shading models for polygons.   **20**

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