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322615(22)

B. E. (Sixth Semester) Examination, 2020

(Old Scheme)

(CSE Branch)

COMPUTER GRAPHICS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *Part (a) of each question is compulsory. Attempt any two question from (b), (c) and (d) part of each questions.*

Unit-I

1. (a) Define resistance & resolution. 2

(b) Draw a neat diagram of CRT. Explain the working of all the components. 7

(c) What is polygon clipping? Explain in brief. 7

(d) Explain the basic concept of midpoint elipse algorithm? Derive the decision parameters for the algorithm and write down the algorithm steps. 7

Unit-II

2. (a) What is B-spline curves? 2

(b) How the curves are drawn using forward differnces? 7

(c) What is Bazier curve? Enlist the general characteristics of Bazier curve. 7

(d) Describe the functionality of blending function for uniform periodic B-spline curve for $d = 3$. 7

Unit-III

3. (a) Define transformation. 2

(b) Explain painter algorithm for hidden surface removal. 7

(c) Explain with example scan line algorithm. 7

(d) Explain Projection and its types. Also draw taxonomy of projection. 7

Unit-IV

4. (a) What is Shading? 2

(b) Explain texture mapping and their characteristics. 7

(c) Define Lambert's law? Explain rendering and visualization of data sets? 7

(d) Explain illumination model for diffused and specular reflection? 7

Unit-V

5. (a) What is procedural animation? 2

(b) How the terrain mid point displacement are generated? 7

(c) Explain morphing and motion control? 7

(d) Explain arc length parameterization in brief. 7