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[5252]-169

S.E (Comp.) (Second Semester) EXAMINATION, 2017

COMPUTER GRAPHICS AND GAMING

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— All questions are compulsory.

1. (a) Explain the following graphics primitives : [6]
 - (i) Tablets
 - (ii) Light Pen
 - (b) Explain Bresenham's line drawing algorithm. Using Bresenham's algorithm to draw a line from (1, 1) to (5, 3). [6]
- Or*
2. (a) Explain flat panel displays in detail. [6]
 - (b) What is antialiasing ? How aliasing effect is removed in vector generation algorithm. [6]
3. (a) Explain with suitable diagram concave and convex polygons. [2]
 - (b) Explain boundary fill algorithm for polygon. [4]
 - (c) Perform a 45° rotation of a triangle A(0, 0), B(1, 1) and C(5, 2) about the origin. [6]

P.T.O.

Or

4. (a) Explain Sutherland-Hodgman algorithm for polygon clipping. [8]
(b) Describe Scaling w.r.t. 2D transformation. [4]
5. (a) Explain how binary space partition algorithm be used for removal of hidden surfaces. [8]
(b) Explain Koch curve in detail giving fractal dimension. [5]

Or

6. (a) Explain Warnock's Algorithm. [7]
(b) Write short notes on : [6]
(i) Ray-tracing
(ii) Transparency
7. (a) Describe Creation and Deletion operations carried out on the segment. [6]
(b) Compare conventional and computer based animation techniques. [4]
(c) What are advantages of CUDA ? [3]

Or

8. (a) Explain link list data structure to represent a display file. [5]
(b) Write a short note on Animation Languages. [4]
(c) What is morphing ? Give applications of Morphing. [4]