7th Semester Regular / Back Examination 2017-18
Computer Graphics
BRANCH (S): AEIE, BIOMED, CSE, ECE, EIE, ETC, FASHION, FAT, IEE, IT, ITE, TEXTILE
Time: 3 Hours
Max Marks: 70
Q.CODE: B225
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 **Answer the following questions:**   **(2 x 10)**
- **a)** What do you mean by emissive and non-emissive displays?
- **b)** What is the importance of homogeneous co-ordinate system in computer graphics?
- **c)** What do you mean by animation and morphing?
- **d)** Write the difference between flood fill and boundary fill algorithm?
- **e)** Explain the properties of B spline. Differentiate from Bezier.
- **f)** What is meant by virtual reality?
- **g)** Define dithering.
- **h)** Compare perspective with parallel projection.
- **i)** Mention some text clipping technique.
- **j)** What do you mean by interactive computer graphics?

Q2 **a)** Compare the computation done in DDA algorithm with Bresenham's line drawing algorithm.   **(5)**
  b) Write a boundary fill procedure to fill an 8-connected region.   **(5)**

Q3 **a)** Given control points (10,100),(50,100),(70,120),and (100,150). Calculate coordinates of any 4 points lying on Bezier curve.   **(5)**
  b) Derive the transformation matrix for window to view port mapping transformation.   **(5)**

Q4 **a)** What is clipping? Explain Sutherland-Hodgeman algorithm of polygon clipping.   **(5)**
  b) What is Halftoning?   **(5)**

Q5 **a)** Describe fractal classification.   **(5)**
  b) Obtain the perspective projection of a line segment AB={(3,2,4),(3,2,8)} which is parallel to z axis on to the z =0 plane with the COP at (0,0,-2). Also find the vanishing point.   **(5)**

Q6 **a)** Describe Scan Line algorithm for visible surface detection method.   **(5)**
  b) Name the major component of a graphical interface. What are its components.   **(5)**

Q7 What is Transformation? Describe 2-D Transformation operations such as Translation, scaling, rotation, reflection and shearing with proper examples.   **(10)**

Q8 **Write short answer on any TWO:**   **(5 x 2)**
- **a)** MIDI vs Digital Audio
- **b)** Hypermedia vs Hypertext
- **c)** Illumination model
- **d)** Aliasing and anti aliasing