JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III.B.TECH - I SEMESTER REGULAR EXAMINATIONS NOVEMBER, 2009
COMPUTER GRAPHICS
(Common to CSE, IT, CSSE, E.COMP.E)

Time: 3hours　　　　　　　　　　　　　　　　　　　　　Max.Marks:80

Answer any FIVE questions
All questions carry equal marks
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1 a) List the graphical input devices. Briefly explain about any two of the devices.
   b) How much time is spent scanning across each row of pixels during screen refresh on
      a raster system with a resolution of 640 by 480 and a refresh rate of 60 frames per
      second?　　　　　　　　　　　　　　　　　　　　　[8+8]

2 a) What is meant by 8-way symmetry of the circle. How is it helpful in generation
      efficient circle generation algorithm.
   b) Compare the flood-fill and boundary fill algorithms.　　　　　　　　[8+8]

3 a) List the basic transformation techniques. Graphically illustrate their effects. State the
      corresponding matrix representations.
   b) What are the steps involved in the reflecting the object about an arbitrary axis using
      2-D transformations.　　　　　　　　　　　　　　　　[8+8]

4 a) Explain the terms: i) parametric representation of a line segment and
                        ii) viewing functions
   b) Explain the steps involved in the Sutherland-Hodgeman algorithm for polygon
      clipping. What are its advantages.　　　　　　　　　　　　[8+8]

5 a) Define the blending function for B-Spline curve. Explain the terms involved in it.
   b) Compare the characteristics of Bazier and B-spline curves.　　　　　[8+8]

6 a) Derive the matrix form for the rotation about z- axis in 3-D space.
   b) Classify the projections and give a brief note about the projection transforms.
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7 a) What are the steps involved in depth buffer algorithm. What are its advantages and
      disadvantages?
   b) What is the principle of area sub-division methods? Illustrate the working of this
      algorithm with suitable examples.　　　　　　　　　　　　[8+8]

8 a) Give a detailed note about the 'stage action' rules of animations
   b) What are the advantages and disadvantages of generation purpose animation
      languages.　　　　　　　　　　　　　　　　　　　[8+8]

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