

## B4.4-R4: COMPUTER GRAPHICS AND MULTIMEDIA

### NOTE:

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 100

1.
  - a) Define the term Quality of service (QoS) in the context of multimedia system?
  - b) Compare GIF and PNG image format.
  - c) What is Isometric projection?
  - d) A Bezier curve is cubic if there are 4 Control points. Prove.
  - e) Discuss the basics of LCD display.
  - f) What is Anti aliasing. How to deal with it?
  - g) What do you mean by Homogenous coordinate system?  
(7x4)
  
2.
  - a) Find a normalization transformation from the window with lower left corner at (0,0) and upper right corner at (4,3) onto the normalized device screen so that aspect ratios are preserved.
  - b) Explain Phong shading model.  
(9+9)
  
3.
  - a) Perform a 45° of triangle A(0,0), B(1,1), C(5,2) about point P(-1,-1).
  - b) Compare and Contrast DDA and Bresenham's line drawing algorithm.  
(9+9)
  
4.
  - a) Explain the conversion of BMP to JPEG?
  - b) Explain MIDI file format.  
(9+9)
  
5.
  - a) What is the role of clipping in viewing transformation? Explain any line clipping algorithm.
  - b) What is the distinction between MPEG2 and MPEG4 video compression?  
(9+9)
  
6.
  - a) Indicate which raster locations would be chosen by Bresenham's algo when scan converting a line from pixel coordinate (1,1) to (8,5).
  - b) Explain Cohen Sutherland line clipping algorithm.  
(9+9)
  
7.
  - a) Write the recursive floodfill algorithm and explain its behaviour.
  - b) Illustrate the difference between Refresh CRT and Raster Scan Display.  
(9+9)