MANIPAL INSTITUTE OF TECHNOLOGY
(Constituent Institute of MANIPAL University)
MANIPAL-576104

FIFTH SEMESTER B.E. (CS&E) DEGREE EXAMINATION-NOV./DEC. 2010
Subject:COMPUTER GRAPHICS AND MULTIMEDIA(CSE 305)
(Revised Credit System)

TIME : 3 HOUR   MAX.MARKS : 50 M

Instructions to the Candidates
- Answer ANY FIVE full Questions.
- Missing data can be suitably assumed

1. a) With neat sketch, explain the components of a typical interactive graphics system? (2+3)M

   b) What are the Digital Differential Analyzers? Rasterize a line using Mid-Point method, having coordinates as

   (-1,-4)   and (3,4)?(1+4)M

2.a) What is edge coherence? Describe the processing steps for the scan line algorithm?(1+4)M

   b) Find the reflected view of a triangle with vertices (30,40), (50,50) and (40,70) about the mirror, which is

   vertically placed such that it passes through (20,0) and (0,20)? 5M

3.a) Consider the effect of translation in the x, y and z directions by -2,-2,-2 respectively, followed by

   successively by a 45 degree rotation about y-axis and 60 degree rotation about x-axis on the homogeneous

   coordinates [3,2,1,1]? 5M

   b) Find the transformation for (i) Cavalier projection with 45 degree (ii) Cabinet projection with 30 degree

   (iii) Draw the projection for unit cube for each transformation? (2+2+1)M

4.a) Explain the Z-Buffer Algorithm? 5M

   b) Complete the position of the Bezier Curve P(t) at the times t=0.2, 0.5 and 0.9, when four control points are

   (2,3), (6,6), (8,1) and (4,-3)? 5M

5.a) What is Half-toning? Explain the Dither pattern representing intensity? 5M

   b) What is Animation? Briefly explain the Animation Techniques? 5M

6.a) What is Multimedia? Differentiate between Hypertext and Hypermedia?(1+4)M

 b) Describe various building blocks of a multimedia system? 5M