

III B.Tech I Semester Regular Examinations, November/December 2005
COMPUTER GRAPHICS
(Electronics & Communication Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is the role of following components in a CRT device.
 - i. Control grid
 - ii. Focusing system.
 - iii. Accelerating a node
 - iv. Horizontal and vertical deflection plates.(b) Discuss about the characteristics of direct view storage tube (DVST) devices. [8+8]
2. (a) Discuss the steps involved in the ordered edge list algorithm.
(b) What are the advantages of edge flag algorithm. [8+8]
3. (a) List the basic transformations which cause the physical distortion in the transformed object.
(b) An object point $P(x,y)$ is translated in the direction $U = aI + bJ$ and simultaneously an observer moves in the direction U . Show that there is no apparent motion of the object point from the point of view of observer. [8+8]
4. (a) Explain how the 4-bit code is generated for clipping a line against a rectangular window.
(b) Discuss about the clipping categories identified in Cohen-Sutherland outcode algorithm. [8+8]
5. (a) Find the mirror reflection transformations with respect to three principle planes.
(b) The transformation matrix A_v denotes the alignment of an arbitrary vector with Z-axis. Give the matrix A_v , explain the steps involved in reflecting an object about an arbitrary plane. [8+8]
6. (a) Given the point $P_1(3,6,20)$, $P_2(2,4,6)$ and $P_3(2,4,6)$ a view point $C(0.0, -10)$, determine which points obscure the others when viewed from C .
(b) What is meant by edge coherence? What is its significance in depth-buffer algorithm? [8+8]
7. (a) What is the blending function used in Bezier's method for curve generation? Explain the terms involved in it?
(b) What are the properties of Bezier curve? [10+6]

8. Discuss about the techniques to achieve the simple animation effects. [16]
