



T.E. (Information Technology) (Semester – I) Examination, 2010
MULTIMEDIA SYSTEMS
(2003 Course)

Time: 3 Hours

Max. Marks: 100

- Instructions :** 1) Answers to the **two** Sections should be written in **separate** answer books.
- 2) From Section I answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and from Section II answer Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.
- 3) **Neat** diagrams must be drawn **wherever** necessary.
- 4) Figures to the **right** indicate **full** marks.

SECTION – I

1. a) Name the various types of authoring tools that exist for multimedia. Explain any one in details. 10
- b) With the help of suitable example explain the Bresenham's line drawing algorithm. 8

OR

2. a) Explain the steps involved in flood fill and boundary fill algorithms. 8
- b) What is shading ? List the salient features of different types of shading methods. 10
3. a) What is a homogeneous coordinate system ? What do you mean by composite coordinates ? 8
- b) Derive the transformation matrix for rotating a point $M(x, y)$ by an angle θ about a point $P(x_0, y_0)$ in two dimensions. 8

OR

4. a) What is line clipping ? Explain the steps in the Cohen Sutherland line clipping algorithm. 8
- b) Explain the steps of Sutherland Hogman polygon clipping algorithm. 8

P.T.O.



5. a) What is aliasing and anti aliasing ? Explain with a suitable example. 10
 b) What are the various storage media for multimedia ? 6

OR

6. Write short notes on the following :
 a) Vector scan and raster scan display 4
 b) 3D Rotation about X-axis 6
 c) Scan line seed fill algorithm. 6

SECTION – II

7. a) What is MIDI file and explain commands of MIDI file. 8
 b) Explain characteristics of sound. 8

OR

8. a) Describe audio file format supported by Windows OS. 8
 b) What are the compression techniques in audio ? Explain PCM in detail. 8
 9. a) What are the steps in designing an animation sequence ? 6
 b) What are different types of animation techniques ? Explain in brief. 6
 c) Explain color model used for CRT display. 6

OR

10. a) Explain the salient points of color models RGB, YUV, CMY. 9
 b) What is computer controlled animation ? What is segmentation in animation ? 9
 11. a) Explain different types of loss less data compression techniques. 8
 b) Explain MPEG compression. 8

OR

12. Write short notes on :
 a) BMP file format 6
 b) LZW encoder 4
 c) Quantization in JPEG. 6