C 32021

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2007

CS 04 606—COMPUTER GRAPHICS AND MULTIMEDIA

(2004 admissions)

Time : Three Hours   Maximum : 100 Marks

Answer **all** *questions.*

I. (a) What are the attributes used in the generation of filled polygons ? Explain.

   (b) What are the limitations of SRGP ? Explain.

   (c) Explain the different types of sweep representations.

   (d) Derive the transformation matrix for perspective projection.

   (e) Write the procedure for displaying animated objects in raster systems.

   (f) Explain the stages involved in the processing chain of interactive computer music systems.

   (g) What are the functions of multimedia DBMS ?

   (h) Explain Huffman encoding using an example.

                                                    (8 × 5 = 40 marks)

II. (a) Derive the transformation matrices for various 2-D transformations.   (15 marks)

Or

   (b) (i) Write the midpoint circle generation algorithm.   (8 marks)

       (ii) Explain the use of clipping in character generation.   (7 marks)

III. (a) (i) Explain the different ways of modeling polygonal surfaces.   (8 marks)

        (ii) Discuss the features of any two 3-D interaction devices.   (7 marks)

Or

   (b) Classify interaction tasks. Explain the design issues of these tasks.   (15 marks)

IV. (a) (i) Discuss the various issues related to animation design.   (10 marks)

        (ii) Explain the use of dithering techniques in black and white television systems.

                                                                                      (5 marks)

Or

   (b) Describe the features of MIDI standards.   (15 marks)

V. (a) Describe the features of JPEG.   (15 marks)

Or

   (b) Explain the need for data compression in multimedia systems. What are the major steps of data compression ?

                                                                                      (15 marks)

                                                                              [4 × 15 = 60 marks]