B.Sc. Semester-VI Examination, 2022-23

COMPUTER SCIENCE [Honours]

Course ID : 61512 Course Code : SH/CSC/602/C-14

Course Title : Computer Graphics

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions.

UNIT–I

1. Answer any **five** of the following questions: $1 \times 5 = 5$

   a) What is the role of electron gun in a CRT monitor?

   b) What is 3D transformation?

   c) What is projection?

   d) What is color look up table?

   e) What do you mean by projection reference point?

   f) Define aspect ratio.

   g) What is the difference between Window and viewport?

   h) What is persistence?

UNIT–II

2. Answer any **two** of the following questions: $5 \times 2 = 10$

a) Write the DDA line drawing algorithm. Use this algorithm to find out 4 points between (2, 5) and (6, 8). $3+2=5$

b) What is 2D translation? Obtain the composite transformation matrix for general fixed point rotation. $1+4=5$

c) What is 4 connected region? Write down the flood fill algorithm. $1+4=5$

d) Write and explain an algorithm used for hidden surface removal.

UNIT–III

3. Answer any **one** of the following questions: $10 \times 1 = 10$

a) Discuss the advantages and disadvantages of using raster graphics versus vector graphics. Write a short note on shadow masking method. $5+5=10$

b) Develop Liang-Barsky line clipping algorithm.
