

**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:

1×5=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?

*[Turn Over]*2. Answer any **two** of the following questions:

5×2=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:

10×1=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.