

Subject Code—61446

B.Sc. EXAMINATION

(Main/Reappear)

(Batch 2019 Onwards)

(Sixth Semester)

COMPUTER SCIENCE

CCsL-603

Computer Graphics (Course-III)

Time : 3 Hours

Maximum Marks : 80

Note : Attempt *Five* questions in all. Q. No. 1 will be compulsory. Attempt the remaining *four* questions by selecting *one* question from each of the four Units.

1. (a) Differentiate between Input and output devices.
- (b) What is Resolution ?
- (c) Define aspect ratio.
- (d) What is Clipping ?
- (e) Define Viewport.
- (f) Explain the term Cartesian coordinate system.
- (g) How do you define intensity ?
- (h) What is vanishing point ?
- (i) Why are transformations required ?
- (j) Give matrix for 3D reflection transformation. $2 \times 10 = 20$

Unit I

2. What is computer graphics ? What are the features and major applications in our day to day life of computer graphics ? Explain in detail. 15

3. Write notes on the following input devices : $5 \times 3 = 15$

- (a) Keyboard
- (b) Graphic Tablet
- (c) Trackball.

Unit II

4. Differentiate between random scan and raster scan. 15
5. Write detailed notes on the following : $7.5 \times 2 = 15$
- (a) Laser Printer
 - (b) Flatbed plotters.

Unit III

6. Locate intermediate pixels of a line having starting point at (2, 4) and ending point at (8, 9) using DDA line generation algorithm. 15

7. Explain the following : $7.5 \times 2 = 15$
- (a) Polygon Filling algorithm

(b) Polygon Clipping Algorithm.

Unit IV

8. What is Projection ? What is its use ? Explain various types of projection in detail with the help of example. 15
9. Explain 2D, 3D co-ordinate system available in computer graphics ? Explain various transformations in these systems. 15