



**K20U 1504**

Reg. No. : .....

Name : .....

**V Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.)  
Examination, November 2020  
(2014 Admn. Onwards)  
CORE COURSE IN COMPUTER SCIENCE  
5B12CSC-E02 : Computer Graphics**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

**One word answer.**

**(8×0.5=4)**

1. a) The maximum number of points that can be displayed without overlap on a CRT.
- b) The translation distance pair (tx, ty) is called
- c) The region against which an object is to clipped is called
- d) Data input from the device is accumulated in
- e) The characters strings and geometric entities of building blocks for pictures is called
- f) \_\_\_\_\_ algorithm picks a point inside an object and starts to fill until it hits the boundary of the object.
- g) The line joining any two interior points of the polygon lies completely inside the program is called
- h) \_\_\_\_\_ is to cut the portion of line which is outside of window and keep only the portion that is inside the window.

**SECTION – B**

Write short notes on **any seven** of the following questions. **(7×2=14)**

2. What are the applications of computer graphics ?
3. Define DDA.
4. What is video display device ? \_\_\_\_\_

**P.T.O.**



5. What are the components of graphics system ?
6. Write short note on scaling in 2D transformation.
7. Explain in detail polygon meshes.
8. Define parallel projection.
9. What is polygon clipping ?
10. Explain Sutherland Hodgeman algorithm.

## SECTION - C

Answer **any four** of the following questions.

(4×3=12)

11. Explain in detail translation, rotation in 3D transformation.
12. Write an algorithm of Bresenham line generating algorithm.
13. Write short note on text clipping.
14. Explain the matrix equation of reflection and scaling in 2D transformations.
15. What are the main functions of boundary fill method ?
16. Explain in detail composite transformations.
17. What are the functions of viewing pipeline ?

## SECTION - D

Write an essay on **any two** of the following questions.

(2×5=10)

18. How to perform the window to viewport transformation ?
19. Explain an algorithm of Sutherland Hodgeman polygon clipping.
20. Write short note on projections and different methods of projections.
21. Explain about the boundary representation of three-dimensional graphics object and to solve plane equation of 3D object.