



NP – 404



V Semester B.C.A. Examination, February/March 2024

(NEP) (Freshers)

COMPUTER SCIENCE

Computer Graphics (Elective – I)

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer any four questions from each Sections.

SECTION – A

I. Answer any four questions. Each question carries 2 marks. (4×2=8)

- 1) Define computer graphics.
- 2) What is geometric transformations ?
- 3) Distinguish between the Random and Raster scan display.
- 4) Write the matrix representation and homogeneous coordinates.
- 5) What are the types of clipping ?
- 6) What are spline curves ?

SECTION – B

II. Answer any four questions. Each question carries 5 marks. (4×5=20)

- 7) List out the component of CRT. Explain their functionality.
- 8) Explain and write steps for DDA line drawing algorithm.
- 9) Give suitable examples and explain all 3D Transformations.
- 10) Explain the following composite transformation
 - i) Translation
 - ii) Rotation.
- 11) Give matrix representation for 2D scaling.
- 12) Explain different types of text clipping in brief.

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SECTION – C

III. Answer **any four** questions. **Each** question carries **8** marks.

(4×8=32)

- 13) Explain the Bresenham's ellipse algorithm.
 - 14) Explain the types of parallel projection with examples.
 - 15) Explain the Cohen Sutherland line clipping algorithm with examples.
 - 16) Differentiate parallel and perspective projection and derive their projection matrices.
 - 17) List out the input devices. Explain their functions.
 - 18) List out the basic transformation techniques. Explain scaling transformation with respect to 2D.
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