

PURBANCHAL UNIVERSITY

2026

B. E. Computer/Third Semester/ Final

Time: 03:00 hrs.

Full Marks: 60 /Pass Marks: 24

BCE3008: Computer Graphics

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

The figures in the margin indicate full marks.

Attempt ALL questions.

Group A

Very short questions:

4×2=8

1. Define Computer Graphics. Write the application of computer graphics in Cartography.
2. Define illumination method.
3. What is meant by vector display?
4. Define parallel projection.

Group B

Short questions:

7×4=28

5. Describe raster scan display architecture with suitable diagram.
6. Define scan line method in details.
7. Explain the working mechanism of CRT monitor with suitable diagram.
8. Rotate a square with vertices A(1,1), B(4,1), C(4,4), D(1,4) by 90° about origin.
9. Explain in detail about the Pivot point scaling in 2D transformation.
10. Explain file formats used in computer graphics.
11. Explain Cohen Sutherland line clipping method in detail.
12. Explain specular reflection method in detail.

Contd. ...

(2)

Group C

Long questions.

3×8=24

13. Define window, viewport, world coordinate and display device coordinates. Also explain in detail about window to viewport transformation.
14. Explain Phong shading model in detail. Write the advantage of Phong shading over Gouraud Shading model.
15. Digitize a circle of radius 5 centered at (0,0) using the mid point circle algorithm, then translate the circle by (4,3) and find the new center coordinates.

