

# POKHARA UNIVERSITY

Level: Bachelor Semester: Fall Year : 2020  
 Programme: BE Full Marks: 100  
 Course: Computer Graphics Pass Marks: 45  
 Time : 3hrs.

*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 the questions.**

1. a) How the entertainment and gaming industry has revolutionized by the advancement in computer graphics explain your answer with some real life examples. 7
- b) Discuss the difference between raster and random scan display system with its architectural diagram. 8
2. a) Derive an equation for calculating points of an ellipse. 7
- b) Rasterize the points of given line end points A ( -2 , -4) and B (-6,-9) using Brenham's line drawing algorithm. 8
3. a) Find the Transformation matrix for window to viewport Transformation. 7
- b) What is windowing and clipping; how a polygon can be clipped explain? 8
4. a) Derive equation for Bezier curve in quadratic polynomial and specify the blending function 7
- b) Define projection. Difference between parallel and perspective projection with figure 8
5. a) Explain the importance of hidden surface removal in computer graphics, explain scan line method of hidden surface removal. 7
- b) Differentiate between Gouraud and phong shading with algorithm. 8
6. a) What is color model. Explain RGB and CMYK color model. 7
- b) Explain GKS and PHIGS. Also list out the available graphical file format. 8

7. Write short notes on: (Any two)

- a) Light pen
- b) A-Buffer Method
- c) Need of illumination Model