34 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2068 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEX, BCT	Pass Marks	32
Year / Part	III / I	Time	3 hrs.

Subject: - Computer Graphics *(EX 603)*

- Candidates are required to give their answers in their own words as far as practicable.
- *Attempt **All** questions.*
- *The figures in the margin indicate **Full Marks**.*
- *Assume suitable data if necessary.*

1. What is the size of frame buffer required to store a SVGA with 24 bit true color video of 10 min without compression? [4]
2. Digitize the endpoint (10, 18), (15, 8) using Bresenham's algorithm. [8]
3. find the composite transformation matrix for reflection about a line y = mx+c. [8]
4. Find the new coordinates of a unit cube 90°-rotated about an axis defined by its endpoints A(2,1,0) and B(3,3,1). [8]
5. Why 3D graphics is more complex than 2D graphics? Explain with the help of viewing pipeline. [8]
6. Explain about parametric cubic curve? What is a Bezier Curve? Explain its properties. [3+3+2]
7. Explain how the geometric and attribute information of a three dimensional objects are stored for the object representation? What are the conditions for error free generation of polygon table? [5+3]
8. Differentiate between image space and object space methods of visible surface detection. Describe A-Buffer method of visible surface detection. [4+6]
9. Explain the Gourad shading for polygon-rendering and compare it with phong shading. [8+2]
10. Write short notes on: (any two) [4×2]
    a) Specular Reflection
    b) Midpoint circle decision parameter
    c) Application of OpenGL in Computer Graphics

***