



# Asian School of Management

(Affiliated to Tribhuvan University)

Samakhushi, Kathmandu

## Pre-Board Examination-2070

**Course:** Bachelor Level/ Second Year/ Fourth Semester/ Science  
Computer Science and Information Technology (C.Sc. 254)  
**Subject:** Computer Graphics

Full Marks: 60 Pass Marks: 24 Time: 3 hrs.
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**Attempt all questions.**

1. What is a random scan display system? Draw its block diagram and explain it in detail.
2. Compare Bresenham's line drawing algorithm with DDA line drawing algorithm. How can we draw a line using Bresenham's method, explain with the help of algorithm.
3. How can you draw circle using mid-point circle algorithm? Explain with algorithm.
4. Explain in detail about line clipping algorithm and its applications.
5. What do you mean by homogeneous coordinates? Rotate a triangle A(5,6), B(6,2) and C(4,1) by 45 degree about an arbitrary pivot point (3,3).
6. Derive the window to viewport transformation coefficient matrix. Explain the application of this matrix.
7. What is a polygon mesh? Explain the application of polygon mesh with example.
8. Justify that hidden surface removal is required in computer graphics. Explain in detail about depth buffer method.
9. List the different type of shading models. Explain in detail about Phong shading model  
OR  
List the different type of shading models. Explain in detail about Gouraud shading model.
10. Consider 256 pixel X 256 scan lines image with 24-bit true color. If 10 minutes video is required to capture, calculate the total memory required? Why intensity assignment is required?