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# B.Tech. (Sem. - 5th)
# COMPUTER GRAPHICS
## SUBJECT CODE : CS - 309
## Paper ID : [A0468]

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours** **Maximum Marks : 60**

**Instruction to Candidates:**

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Two** questions from Section - C.

## Section - A

*Q1)* *(10 x 2 = 20)*

a) What is clipping.

b) Define the term floating horizon.

c) Define the term antialiasing.

d) Differences between Windowing and Viewing.

e) What do you understand by the term ray tracing?

f) What is uniform and differential scaling?

g) What is a vanishing point?

h) Give matrix for reflection transformation.

i) What is a perspective view?

j) List different types of visible surface algorithms.

## Section - B

*(4 x 5 = 20)*

*Q2)* Discuss the detailed working of a cathode ray tube.

*Q3)* Explain any ten input devices used in a graphics system.

*Q4)* Discuss the scan line polygon fill algorithm in detail.

*Q5)* How is a circle plotted with the help of a midpoint circle algorithm?

*Q6)* Explain any four geometrical transformations with examples.

## Section - C

*(2 x 10 = 20)*

*Q7)* Explain the z-buffer algorithm. What are the advantages and disadvantages of using a z-buffer algorithm?

*Q8)* Explain in detail any one of Gourard and Phong Shading technique.

*Q9)* What is viewing? What is window to viewport transformation?