(Please write your Exam Roll No.) *Exam Roll No.* ……..

END TERM EXAMINATION

SECOND SEMESTER [MCA] MAY-2008

Paper Code: MCA-108	**Subject: Computer Graphics**
Paper Id: 44108	**(Batch: 2004-2007)**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt any five questions.

Q.1 (a) Explain Bresenham's Line drawing algorithm and Derive the decision parameter for Bresenham's Line drawing. (7)

(b) For 10 x 0 frame buffer, interpret the Bresenham's algorithm by hand to find which pixels are turned on for the line segment (1,2) and (7,6). (5)

Q2. (a) Explain mid point circle drawing algorithm. (6)

(b) Compute the co-ordinates of points of circle drawn with centre at (10, 10) and radius 10 using Bresenham's circle drawing algorithm. (6)

Q3. (a) Explain Sutherland-Cohen clipping algorithm? (5)

(b) Prove that two scaling transformations are commute i.e. S1 S2 = S2 S1and two 2D rotations about the origin are commute i.e. R1 R2 = R2 R1 (7)

Q4. (a) Reflect the triangular polygon whose vertices are A(-1, 0), B(0, -2) C(1,0) about the line y = x +2 (7)

(b) Explain HSV color model. (5)

Q5. (a) What do you understand by shading? Explain phong shading. (6)

(b) Explain scan line method for the hidden surface removal. (6)

Q6. (a) How B-spline curves differ from Hermite curve? (6)

(b) Explain orthographic parallel projection? (6)

Q7. (a) Explain Boundary representation (b- rep) method for solid modelling. (6)

(b) Explain area sub division method for hidden line and surfaces. (6)

Q8. Write short notes on (**any four**) (12)

(a) One vanishing point (V.P) projection

(b) Image Scanner

(c) Isometric projection

(d) Constructive solid geometry

(e) Interlacing

****