Student Registration Number

G

COURSE CODE: DCAP504
COURSE TITLE: Computer Graphics

Time Allowed: 3 hours **Max. Marks: 80**

1. *This paper contains 10 questions divided in two parts on __1__ page.*

2. Part A is compulsory.

3. In Part B (Questions 2 to 10), attempt any 6 questions out of 9. Attempt all parts of the selected question.

4. *The marks assigned to each question are shown at the end of each question in square brackets.*

5. *Answer all questions in serial order*.

6. The student is required to attempt the question paper in English medium only.

PART A

Q1

(a) Define aspect ratio. [2]
(b) In RGB colour model (0,0,1) represent which colour? [2]
(c) Explain in brief joystick as input device. [2]
(d) Define frame buffer. [2]
(e) Explain Scaling transformation with help of an example. [2]
(f) Write the 2D rotation matrix in homogenous coordinate system. [2]
(g) Name any two Polygon clipping algorithms. [2]
(h) What is morphing? [2]
(i) Explain in brief about inkjet printer. [2]
(j) What is CRT? [2]

PART B

Q2. Write any circle drawing algorithm. [10]

Q3. The coordinates of square are given as (0,0) (2,0) (2,2) (0,2). Scale the square by a factor of 2 in x and y direction and find new coordinates of square. [10]

Q4. Write and explain the cohen sutherland line clipping algorithm. [10]

Q5. Write and explain Weiler Atherton Polygon clipping algorithm. [10]

Q6. Explain Scan line hidden surface removal algorithm. [10]

Q7. Use Bresenham's line drawing algorithm to find the coordinates on the line with end points of the line as (20,10) (30,18) . [10]

Q8. Write a note on ray tracing. [10]

Q9. Write a note on colour models. [10]

Q10. (a) Write difference between raster scan display and random scan display.
(b) Write difference between perspective projection and parallel projection. [5+5] [10]