Student Regd. No

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COURSE CODE: DCAP504
COURSE TITLE: COMPUTER GRAPHICS

Date of Exam:- 20 Oct **Session:- 1:30-4:30**

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 questions chosen.**
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.

Part A:

Q1: a) Discuss the use of color look up table.
b) What is the need of anti-aliasing.
c) Discuss Interlacing.
d) Discuss DVST.
e) Discuss Virtual reality System.
f) Differentiate between Raster and Random Scan Displays.
g) Define Persistence.
h)Discuss Morphing.
i) Define aspect Ratio.
j) Discuss Window to viewport Transformations. [10*2=20]

Part B:

Q2. What do you understand by transformation? Differentiate between Coordinate and geometric transformation and explain the various geometric transformations. [10]

Q3. Differentiate between interior and exterior Clipping and discuss the various techniques used in Text Clipping with an example. [10]

Q4. Briefly describes the Cohen Sutherland Clipping against a rectangular clip window [10]

Q5. Trace all the intermediate points of a line defined from A(20,10) to B(30,18) using Bresenham line algorithm. [10]

Q6. Derive the steps for viewing the surface using Z-buffer hidden surface algorithm. [10]

Q7 a) Magnify the triangle with vertices A(0,0), B(1,1), C(5,2) to twice its size while keeping C(5,2) Fixed.
b) What do you understand by composite transformation perform a general fixed point scaling with an example. [2*5=10]

Q8 Briefly describe the Sutherland hodgeman algorithm for clipping a polygon with an example [10]

Q9 Write a Pseudo Code procedure to implement the Flood fill algorithm, using the 4-connected definition for region pixels and also discuss the advantage of Flood fill technique over Boundary fill technique. [10]

Q10 a) Discuss the various perspective projection anomalies.
b) Derive the transformation that rotates an object β degree about the origin. And write the matrix representation for this rotation. [2*5=10]