Student Registration Number

C

COURSE CODE: DCAP504
COURSE TITLE: Computer Graphics

Date: 20-Sep-2013 **Time: 09:30-12:30**
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 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 for an image. [2]

b) Define Image processing. [2]

c) What are the disadvantages of DDA algorithm? [2]

d) What do you mean by rendering? [2]

e) Explain any three applications of computer graphics. [2]

f) Briefly define viewing transformation. [2]

g) What do you mean by Ray Tracing? [2]

h) What do you understand by point clipping? [2]

i) What do you mean by refresh rate? [2]

j) Briefly explain the concept of Texturing. [2]

Part – B

Q2. "To generate and display graphic images various special purpose hardware are used. ". Justify the statement writing about various input/output devices used for computer graphics. [10]

Q3. Write and explain various colour models used in computer graphics. [10]

Q4. "In 2-D transformation, vectors and matrices play an important role in defining the 2-D graphic object." Do you agree with statement? If yes then explain any three transformations that a 2-D object can go through in 2-D space. [10]

Q5. Write the Bresenham's Line Algorithm for scan conversion of a line. Take suitable example to explain it. [10]

Q6. What do you mean by clipping? Write and explain three primitive types of clipping. [10]

Q7. Taking suitable example elaborate translation, scaling and rotation as 3D transformations. [10]

Q8. Write and explain Windows to Viewport mapping and relationships in detail. [10]

Q9. Is Phong model same as local illumination model? Justify your answer explaining the Phong model in detail. [10]

Q10. Write the Z-Buffer algorithm for hidden surface elimination. Write its advantages and disadvantages and give relevant example for Z-buffer [10]