

(Please write your Exam. Roll No.)

Exam. Roll No. 003

END TERM EXAMINATION

SIXTH SEMESTER [BCA], MAY - 2011

Paper Code : BCA 306

Subject : Computer Graphics and Multimedia Applications

Paper Id : 20306

Time : 3 Hours

Maximum Marks : 75

Note : Question 1 is compulsory and attempt One question from each unit.

Q. 1. Attempt any Ten parts. Each part carries 2.5 marks. (10×2.5)

- (a) When and why we use homogeneous coordinate system?
- (b) What is clipping?
- (c) Describe aliasing.
- (d) Polygon meshes.
- (e) What do you understand by the term multimedia? List a few applications of multimedia.
- (f) Differentiate interactive and non-interactive graphic.
- (g) How millions of colours are created in graphics with only 3 basic colours?
- (h) Resolution of monitors.
- (i) Refreshing.
- (j) Representation through parametric geometry.
- (k) B-splines
- (l) 3-D transformation requires information of projection

UNIT-I

- Q. 2. (a) List various methods learnt by you to draw a line. Discuss the method you think is the best and why. (6.5)
- (b) Scan convert the straight line with end points (5, 10) and (15, 35) using the algorithm discussed by you earlier the part(a). (6)

OR

- Q. 3. (a) Describe Cyrus-Back clipping techniques. What are its merits / demerits compared to other techniques of clipping. (6.5)
- (b) Briefly describe evolution of input/output graphic tools. (6)

UNIT-II

- Q. 4. (a) Consider a square with coordinates (2,2), (6,2), (2,6), (6,6).
- (b) Rotate the square with 90 degree, anticlockwise with respect to (2,2).
- (c) Now scale it to twice its size.
- (d) Describe all operation through composite matrix.
- (e) Also guess the shape of the final figure. (5×2.5)

OR

- Q. 5. (a) What is the difference between window and view port? What happens, to the scene if viewport is displaced? (6.5)
- (b) Describe Cohen-Sutherland algorithm of clipping. (6)

UNIT-III

Q. 6. (a) What is a B-spline curve? How are they generated? Describe the algorithm to generate a B-spline.

(b) Describe Constructive Solid Geometry for solid modeling. (8+4.5)

OR

Q. 7. (a) Describe sweep representation for solid modeling.

(b) Explain how Bezier curves are represented parameterically. Consider a Bezier curve having control points $P_1(20, 0)$, $P_2(0, 20)$, $P_3(80, 40)$ and $P_4(40, 0)$. Compute the coordinates of points on the curve for $i = 0, 0.2, 0.6, 1.0$. Draw a rough sketch of the curve.

UNIT-IV

Q. 8. (a) Describe evolution of skills in multimedia. Today, the multimedia techniques are replacing old concepts of advertisements. Discuss, also bring out power of multimedia with examples.

(b) Describe authoring tools. (8+4.5)

OR

- Q. 9. (a) How important is the software and software skills for the development of multimedia application? (4)
- (b) Describe any software of multimedia you have studied. (4)
- (c) Describe interactive multimedia. (4.5)

