

**AMIETE – CS/IT (NEW SCHEME) – Code: AC60 / AT60****Subject: COMPUTER GRAPHICS**

Time: 3 Hours

Max. Marks: 100

**DECEMBER 2009****NOTE: There are 9 Questions in all.**

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

**Q.1 Choose the correct or the best alternative in the following: (2×10)**

- a. The basic objects out of which computer-drawn pictures are composed are called as \_\_\_\_\_
- (A) polylines (B) output primitives  
(C) images (D) pixels
- b. In a gray-scale image, eight bits per pixel produce \_\_\_\_\_ gray levels
- (A) 8 (B) 16  
(C) 256 (D) 1024
- c. A plasma panel display has a \_\_\_\_\_ at each pixel location
- (A) tiny transistor (B) tiny neon bulb  
(C) liquid crystal (D) phosphor dot
- d. Laying lots of copies of the same thing side by side to cover the entire screen window is called \_\_\_\_\_ the window
- (A) zooming in (B) tiling  
(C) zooming out (D) covering
- e. Cohen-Sutherland algorithm is used for \_\_\_\_\_
- (A) line drawing (B) curve drawing  
(C) polygon filling (D) line clipping
- f. The most common transformations used in computer graphics are \_\_\_\_\_
- (A) viewport transformations (B) window transformations  
(C) affine transformations (D) arbitrary transformations
- g. The face list contains \_\_\_\_\_ information
- (A) locational (B) geometric  
(C) orientation (D) connectivity
- h. Greater realism can be achieved by \_\_\_\_\_ shading
- (A) Flat (B) Phong  
(C) Gouraud (D) Real



b. Explain how polygon-defined region is filled using scan line method. **(8)**

**Q.9** a. Explain how curves are described by means of polynomials. Obtain the implicit functions for an ellipse, a parabola and a hyperbola. **(10)**

b. Write the parametric form of Bezier curve based on four points. Also list the four cubic Bernstein polynomials. **(6)**