**Code: R7310503**

R07

B.Tech III Year I Semester (R07) Supplementary Examinations December 2015

## COMPUTER GRAPHICS

(Common to CSE, IT CSS and ECC)

(For 2008 regular admitted batch only)

Time: 3 hours                                                                                          Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1  (a)  Explain about raster-scan and random-scan display devices.
   (b)  Explain about various flat-panel displays.

2  (a)  Illustrate with an example midpoint circle algorithm.
   (b)  Demonstrate how excessive stacking can be avoided by employing scan-line method in boundary-fill algorithm.

3  (a)  Give transformation equations and matrix formulation for 2D translation and scaling about origin.
   (b)  What do you mean by homogeneous coordinate system? Express basic 2D transformations in homogeneous coordinate system.

4  What do you mean by windowing transformation? Explain with example

5  Write about the following in detail:
   (a)  Polygon surfaces.
   (b)  Blobby objects.

6  Write 3D homogeneous transformation matrix  for each of the following transformations:
   (a)  Shift 0.5 in X, 2.0 in Y and 0.2 in Z.
   (b)  Rotate by $\pi/4$ degrees about X-axis.

7  Write a procedure that uses the depth sorting method to display the visible surfaces of any given object with plane faces.

8  Write about the following:
   (a)  Direct motion specification.
   (b)  Goal- directed systems.

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