FACULTY OF INFORMATICS

B.E. 3/4 (IT) II – Semester (New) (Main) Examination, May 2013

Subject : Computer Graphics (Elective – I)

Time : 3 hours   **Max. Marks : 75**

Note : Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. Define Aspect ratio.   2

2. What is homogeneous coordinates?   2

3. What is the transformation matrix in parallel projection?   3

4. Explain light sources in Open GL.   3

5. What is anti-aliasing?   2

6. What is parametric continuity conditions?   3

7. How hierarchical modeling is done with structures?   3

8. Explain open GL API.   3

9. Classify interactive input devices.   2

10. Write logic operations of input devices.   2

PART – B (50 Marks)

11.a) Find the matrix transformation for finding the reflection of a point with respect to the line given by equation 4x + 6y + 8 = 0.   5
   b) Give an algorithm for hidden surface removal.   5

12.a) Explain animating interactive programs.   5
   b) How do you model a coloured cube?   5

13.a) Describe imaging system.   5
   b) Explain different control functions for graphics programming.   5

14.a) Describe Cohen-Sutherland algorithm for line clipping.   5
   b) Illustrate the above algorithm with an example.   5

15.a) Write about B-spline curves and surfaces.   5
   b) State and explain geometric continuity conditions.   5

16.a) Discuss about structures and modeling.   5
   b) Explain any one polygon clipping method with example.   5

17. Write short notes on :
   a) Global illumination   3
   b) Affine transformations   3
   c) Curves and surface in open GL   4

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