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Sixty Semester B.E. Degree Examination, December 2011
Computer Graphics and Visualization

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. With a neat diagram, explain the components of a graphics system. (06 Marks)
- b. With a neat diagram, explain the human visual system. (06 Marks)
- c. In an API, a block box, explain the major groups of functions. (08 Marks)

- 2 a. With a neat diagram, discuss the color formation. Explain the additive and subtractive colors, indexed color and color solid concept. (12 Marks)
- b. What are the control functions? Explain with examples. (08 Marks)

- 3 a. Which are the six classes of logical input devices? Explain. (06 Marks)
- b. Discuss the request mode, sample mode and event modes, with the figures wherever required. (08 Marks)
- c. Write a program, to draw a rotating square. (06 Marks)

- 4 a. Explain the translation, rotation and scaling with the suitable figures. (10 Marks)
- b. Discuss the frames in open GL. (10 Marks)

PART – B

- 5 a. How do you achieve affine transformations by concatenation? Discuss. (10 Marks)
- b. What are quaternions? With an example, explain its mathematical representations. (10 Marks)

- 6 a. With suitable sketches, explain the various kinds of views in computer graphics system. (10 Marks)
- b. Discuss the polygonal shading and its types. (10 Marks)

- 7 a. Explain the phong lighting model. (10 Marks)
- b. How is approximation of a sphere done by recursive subdivision? (10 Marks)

- 8 a. Explain the Cohen – Sutherland clipping. (10 Marks)
- b. Explain the Anti – aliasing, with its types. (10 Marks)

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