

USN

--	--	--	--	--	--	--	--	--	--

10CS65

Sixth Semester B.E. Degree Examination, June/July 2013
Computer Graphics and Visualization

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Define computer graphics? Explain in detail, the application of computer graphics in current day. (10 Marks)
- b. Explain working of pinhole camera. Derive angle of view. (10 Marks)
- 2 a. List and explain graphics functions. (10 Marks)
- b. Discuss indexed colour formation in graphics system, with suitable diagram. (06 Marks)
- c. Define aspect ratio and view ports with diagram. (04 Marks)
- 3 a. Name different graphics input devices. Explain the input modes in detail, with diagram. (10 Marks)
- b. Write a program on rotating a cube. (10 Marks)
- 4 a. List and explain different window coordinates in Open GL. (10 Marks)
- b. Define and discuss with diagram translation, rotation and scaling. (10 Marks)

PART – B

- 5 a. Write a short note on current transformation matrix. (08 Marks)
- b. What is transformation? Explain affine transformation. (12 Marks)
- 6 a. What are two types of simple projection? List and explain. (10 Marks)
- b. Derive matrix representation for perspective projection, with diagram if necessary. (10 Marks)
- 7 a. List and explain different light sources in detail with suitable diagram. (10 Marks)
- b. What are the types of polygon shading? Discuss. (06 Marks)
- c. Write a brief on global illumination. (04 Marks)
- 8 Write a short notes on :
 - a. Graphics pipeline architecture
 - b. Library organization in Open GL
 - c. Display list
 - d. Mapping between coordinates. (20 Marks)

* * * * *

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

