

Roll No.

Total No. of Questions : 08]

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M.Tech.

COMPUTER AIDED DESIGN METHODS

SUBJECT CODE : CE - 507

Paper ID : [E0854]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 100

Instruction to Candidates:

- 1) Attempt any **Five** questions.
- 2) **All** questions carry equal marks.

- Q1)** (a) What are the rules designed for implementing a graphics package.
(b) Explain Characteristics of a Graphics Package.
- Q2)** Why we apply hidden surface algorithm? Explain Depth-Buffer algorithm with its limitations. On which approach does this algorithm work?
- Q3)** (a) Derive two dimensional transformation matrices for rotation, scaling and translation.
(b) Develop the transformation for finding the reflection of a point with respect to the line $ax + by + c = 0$.
- Q4)** (a) What do you mean by raster scan systems? Explain the working of a color CRT monitors.
(b) Explain Characteristics of Raster Graphics Systems.
- Q5)** (a) Derive 3D transmissions for translation, scaling and rotation.
(b) Explain the concept of Homogeneous coordinates.
- Q6)** (a) Explain the operating characteristics of graphic screen digitizer.
(b) List and explain different applications of computer graphics.
- Q7)** (a) What do you understand by CAD? Discuss its usage and application in detail?
(b) Write a computer program for design detailing of RCC slab?
- Q8)** Explain the following :
(a) Matrix methods for structural analysis.
(b) Solution of equilibrium equations.

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