



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 140701

Roll No.

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B. Tech.

(SEM. VII) (ODD SEM.) THEORY
EXAMINATION, 2014-15

CAD

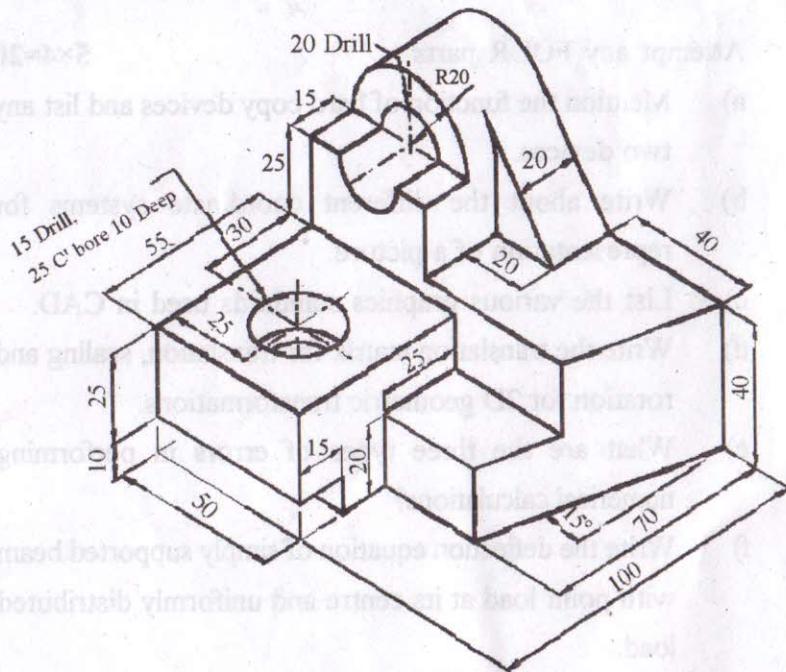
Time : 3 Hours]

[Total Marks : 100

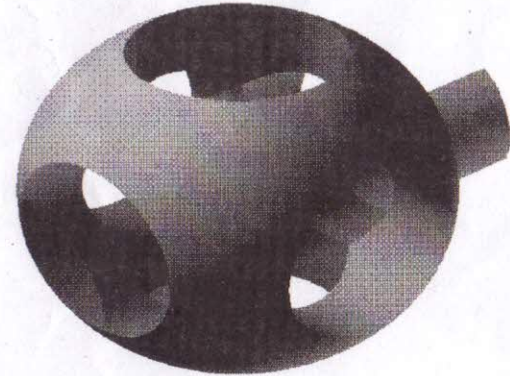
- 1 Attempt any FOUR parts : 5×4=20
- a) Mention the function of hard copy devices and list any two devices.
 - b) Write about the different coordinate systems for representation of a picture.
 - c) List the various graphics standards used in CAD.
 - d) Write the translation matrix for translation, scaling and rotation for 2D geometric transformations.
 - e) What are the three types of errors in performing numerical calculations?
 - f) Write the deflection equation of simply supported beam with point load at its centre and uniformly distributed load.

- 2 Attempt any TWO parts : $10 \times 2 = 20$
- Explain about any four input devices used for data input on graphics work station.
 - What is flat panel display? Explain its types.
 - Write notes on the graphic functions used for creating and manipulating pictures.

- 3 Attempt any TWO parts : $10 \times 2 = 20$
- Draw a circle using Bresenham's midpoint circle algorithm with centre $(-3, 8)$ and radius 12 units.
 - A point $P(6, -4, -8)$ is rotated at 45° about x axis and then it rotated at 60° about Z axis. Find the final coordinate of the point P.
 - Construct the following model using CSG primitives and also to develop the history tree.



- 4 Attempt any TWO parts : $10 \times 2 = 20$
- Write the differences between interpolation and approximation.
 - List the procedure to create the solid model shown in figure using Pro-E software.



- Explain about the various cubic spline interpolation methods.

- 5 Attempt any TWO parts : $10 \times 2 = 20$
- Draw and explain the two dimensional bezier curves generated from three, four and five control points.
 - With a suitable example explain the Newton raphson method
 - Explain RGB and HSV Color models with suitable diagram.