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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(AI & DS/ AI&ML/ Block Chain/CE/CSE/CS/CSD/EE/ECE
/ETE/FT/IT/ME/ Robotics & Artificial Intelligence/Internet of Things and
Cyber Security including Block Chain Technology) (Sem.–1,2)**

ENGINEERING GRAPHICS & DESIGN

Subject Code : BTME101/21

M.Code : 93799

Date of Examination : 02-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTION - B & C** have FOUR questions each.
3. **Attempt any FIVE** questions from **SECTION B & C** carrying EIGHT marks each.
4. **Select atleast TWO** questions from **SECTION - B & C**.

SECTION-A

I. Write short notes on:

- a) Explain with the help of an example the Unidirectional system of placement of dimensions.
- b) Show by means of traces, a plane perpendicular to both HP and VP.
- c) What do you mean by Representative Fraction (RF)?
- d) Explain Frustum and Truncated Solids with a suitable drawing.
- e) Explain the difference between 1st Angle Projection and 3rd Angle Projection.
- f) Draw projections of a line inclined to HP and parallel to VP with a suitable freehand drawing. Assume suitable dimensions. Also, show traces.
- g) How will you represent Glass and Wood on a drawing sheet?
- h) What are right solids and oblique solids? Explain with a suitable freehand drawing.
- i) Print the following statement with single stroke capital vertical letters of height 10mm:
"EXCUSES ARE THE NAILS THAT BUILD THE HOUSE OF FAILURE"
- j) Draw a regular Hexagonal Lamina of side 55mm.

SECTION-B

2. Draw a Diagonal Scale of R.F=1/40 to read meters, decimeters and centimeters and long enough to measure up to 8m.
3. A point "E" is 62 mm in front of VP and 49 mm above HP. Draw its projections and find out its shortest distance from the reference line.
4. Plan and elevation of a line "AB" 60mm long, measure 54mm and 45 mm respectively. End A is 15mm from HP and 10mm from VP. Draw its projections and determine its inclinations to the reference planes when the line lies in First quadrant.
5. End "C" of line' CD is 13 mm above HP and 51 mm in front of VP and end "D" 12 mm behind the VP and 35 mm below the HP. The end projectors are 52 mm apart. Draw the projections and find TL, θ , ϕ , HT and VT.

SECTION-C

6. A regular hexagonal thin plate of 45mm side is resting on one of its corners in HP. Draw its projections when the plate surface is vertical and inclined to VP at 30°. Also show traces. Assume the said plate lying in first quadrant.
7. A right regular triangular prism of base edge 42mm, axis 62mm long is resting on its rectangular face on HP, with axis parallel to both HP and VP. Draw its projections.
8. A right regular square pyramid of base edge 45 mm and axis 52 mm long; rests on its base on HP with one of its base edges parallel to VP. Draw its projections assuming the pyramid in 1st quadrant.
9. Draw isometric drawing of a pentagonal prism of base edge 45mm and axis 65mm long.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.