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Total No. of Pages : 02

Total No. of Questions : 09

**B. Tech. (AE/AI&ML/AI&DS/IOT/A&R/CE/CSE/DS/EEE/EE/ECE/FT/IT/
ME/Internet of Things and Cyber Security including Block Chain
Technology)(Sem.–1,2)**

ENGINEERING GRAPHICS & DESIGN

Subject Code : BTME101-21

M.Code : 91335

Date of Examination : 14-01-2025

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 at least TWO questions from SECTION - B & C.

SECTION-A

I. Write short notes on :

- a) Write the following statement using single stroke capital vertical letters of 12 mm size: ***"WHOEVER IS HAPPY WILL MAKE OTHERS HAPPY TOO"***.
- b) Explain any two types Lines used in Engineering Drawing.
- c) Explain with the help of an example the unidirectional system of placement of dimensions.
- d) What is difference between plane scale and diagonal scale?
- e) Draw a regular Hexagonal Lamina of side 65mm.
- f) How will you represent Metals and Glass on a drawing sheet?
- g) Draw projections of a line inclined to HP and parallel to VP with a suitable freehand drawing. Assume suitable dimensions. Also, show traces.
- h) Show by means of traces, a plane perpendicular to HP and inclined to VP.
- i) Differentiate between Frustum and Truncated solid.
- j) Differentiate Isometric Projections and Isometric Drawing.

SECTION-B

2. Line "KL" 68mm long; has its end "K" both in HP and VP. It is inclined at 42° to the "HP" and 33° to the "VP". Draw its projections when the line is lying in first quadrant.
3. A line CD has its end "C" 10 mm above HP and 15 mm in front of VP. End "D" 42 mm above HP and 58 mm in front of VP. The distance between the end projectors, is 48 mm. Draw the projections of the line and find out its true length, true inclinations with principle planes, HT and VT.
4. A point "M" is 39mm behind VP and 32mm below HP. Draw its projections and find out its shortest distance from the reference line.
5. Construct a Plane Scale of R.F= 1:40 to read meters and decimeters and long enough to measure up to 6m. Indicate 4.4m on the scale.

SECTION-C

6. A hexagonal prism of side of base 28mm and length of axis 65mm lies on one of its rectangular faces on HP with axis Perpendicular to VP and parallel to HP. Draw its projections.
7. A circular lamina of diameter 42mm is inclined to VP at 44° and perpendicular to HP and it is resting on VP on a point on its circumference. Draw its projections. Also show traces.
8. A cone of base rim diameter 45mm and axis 65 mm lying on HP on a point of its circumference such that the generator is perpendicular to HP. Draw its projections assuming the cone lying in first quadrant.
9. Draw the isometric drawing of the Frustum of a right regular hexagonal pyramid, side of the base hexagon is 20 mm, side of top hexagon is 10 mm, and the height of the frustum is 40 mm.

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.