Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE/AIML/DS/CE/CSE/EEE/ECE/EE/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 : 91335

Date of Examination: 15-12-2023

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

1. Write short notes on :

a) Draw projections of a line inclined to HP and parallel to VP with a suitable freehand drawing. Also, show traces.

b) Explain the following terms with a suitable drawing: Apex, Slant Height, Base Rim and Generator.

c) How will you represent Liquid and Concrete on a drawing sheet?

d) Write the following statement using single stroke capital vertical letters of 12 mm size: "IKGPTU KAPURTHALA".

e) What do you mean by representative fraction (RF)?

f) What are right solids and oblique solids? Explain with a suitable freehand drawing.

g) Explain the types of Dimensions with a suitable drawing.

h) Show by means of traces, a plane perpendicular to VP and inclined to HP.

i) Explain with the help of an example the Unidirectional system of placement of dimensions.

j) Explain any two types of Lines used in Engineering Drawing.

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SECTION-B

2. A point "G" is 31mm behind VP and 45mm below HP. Draw its projections and find out its shortest distance from the reference line.

3. A line "AB" is contained by a profile plane. Its end "A" is 49 mm in front of VP and 11 mm above HP and end "B" is 7 mm in front of VP and 59 mm above HP. Draw its projection and find TL, θ, ϕ, HT and VT.

4. Line "CD" 72 mm long; has its end "C" both in HP and VP. It is inclined at 45° to the "HP" and 39° to the "VP". Draw its projections when the line is lying in first quadrant.

5. Distance between two railway stations is 360 km, which is represented on a railway map by a line 12 cm long. Construct a Diagonal Scale to read up to single km and indicate distance of 295 km on the scale.

SECTION-C

6. A cone of base diameter 50 mm and axis 65 mm long; is lying on HP on a point of its circumference such that its generator is perpendicular to HP. Draw its projections assuming the object lying in first quadrant.

7. A regular pentagonal lamina of side 20 mm, perpendicular to HP and lying on HP on one of its sides. The plane is parallel to VP and 20 mm from VP. Draw its projections and show traces.

8. A right regular hexagonal pyramid side of base 35mm and height 65mm rests on its base on the HP such that one of its base edges is perpendicular to VP. Draw its projections.

9. A cube of 30 mm edge is placed centrally on top of a cylindrical block of diameter 52 mm and 20 mm height. Draw its isometric drawing.

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.

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