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Total No. of Pages : 02

Total No. of Questions : 09

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

ENGINEERING GRAPHICS & DESIGN

Subject Code : BTME101-21

M.Code : 93799

Date of Examination: 23-12-2023

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) Explain any two types Lines used in Engineering Drawing.
- b) Explain the following terms with a suitable drawing: Apex, Slant Height, Base Rim and Generator.
- c) Draw projections of a line lying on a Profile Plane whose top view is larger than its front view. Which angle is bigger " θ " or " ϕ " ? Show with the help of a suitable free hand drawing.
- d) Show conventional representation of Glass and Wood on a Drawing Sheet.
- e) Explain the importance of a title block.
- f) Draw a regular Pentagonal Lamina of side 55mm.
- g) Explain the difference between an isometric projection and isometric drawing.
- h) Show by means of traces, a plane perpendicular to HP and inclined to VP.
- i) Explain with the help of an example the Aligned system of placement of dimensions.
- j) Draw projections of a line inclined to VP and parallel to HP with a suitable freehand drawing. Also, show traces.

SECTION-B

2. Line "KP" 68 mm long; has its end "K" on HP and 22 mm from VP. It is inclined at 42° to the W and 35° to the "HP". Draw its projections when the line is lying in first quadrant.
3. Draw a scale of R.F 1/50 to read meters and decimeters and long enough to measure up to 6m. Show 5.7m on the scale.
4. A point "M" is 36mm behind VP and 42mm below HP. Draw its projections and find out its shortest distance from the reference line.
5. End "A" of a line AB 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. The distance between end projectors is 52mm. Draw its projection and find TL, θ , ϕ , HT and VT.

SECTION-C

6. A regular hexagonal 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.
7. A cone of base diameter 45 mm and axis 58 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.
8. Draw isometric drawing of a hexagonal prism of base edge 25mm and axis 62mm long.
9. A right regular pentagonal pyramid of base edge 32mm and axis 63mm long rests on its base on the HP such that one of its base edges is perpendicular to VP. Draw its projections.

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.