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CMR TECHNICAL CAMPUS
UGC AUTONOMOUS

B.Tech–I Semester SupplyEnd Examinations, January-2024
ENGINEERING GRAPHICS
Common to CE,ME,AIML,CSG,ECE,CSD

Time: 3 Hours **Max. Marks: 70**

Note

i. Answer all five questions with internal choice.
ii. All Questions carry equal marks.

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5 X 14 = 70 Marks

1. a. A cube of 5 cm side represents a tank of 1000 cubic metres volume. Find the R.F. and construct a scale to measure up to 35 m. Mark a distance of 27 m on it. [7M]

b. Construct a scale of 1:14 to read feet and inches and long enough to measure 7 feet. Show a distance of 5 feet 10 inches on it. [7M]

OR

2. A fixed point is 90 mm from a fixed straight line. Draw the locus of a point P moving in such a way that its distance from the fixed point is twice its distance from the fixed straight line. Draw and Name the curve. [14M]

3. a. A 60 mm long line PQ has its end A 25 mm above the H.P. and 40 mm in front of the V.P. Draw the projections of the line when it is parallel to both the reference planes. [7M]

b. A straight line PQ has its end P 20 mm above the H.P. and 30 mm in front of the V.P. and the end Q is 80 mm above the H.P. and 70 mm in front of the V.P. If the end projectors are 60 mm apart, draw the projections of the line. Determine its true length and true inclinations with the reference planes. [7M]

OR

4. A hexagonal plane of side 30 mm has an edge in the V.P. The surface of the plane is inclined at 45° to the V.P. and the edge on which it rests is inclined at 30° to the H.P. Draw its projections [14M]

5. A pentagonal pyramid of base side 30 mm and axis 60 mm rests on an edge of its base on the ground so that the highest point of the base is 20 mm above the ground. Draw its projections when a vertical plane containing the axis is inclined at 30° to the V.P. [14M]

OR

6. A cylinder of base diameter 50 mm and axis 65 mm rests on a point of its base circle on the H.P. Draw its projections when the axis is inclined at 30° to the H.P. and top view of the axis is perpendicular to the V.P. [14M]

7. A square prism of base side 40 mm and axis 60 mm rests on its base on the H.P. such that one of its rectangular faces is inclined at 30° to the V.P. It is cut by a section plane perpendicular to H.P. and inclined at 60° to V.P. passing through the prism such that a face which is inclined at 60° to the V.P. is bisected. Draw its sectional front view, top view and true shape of section. [14M]

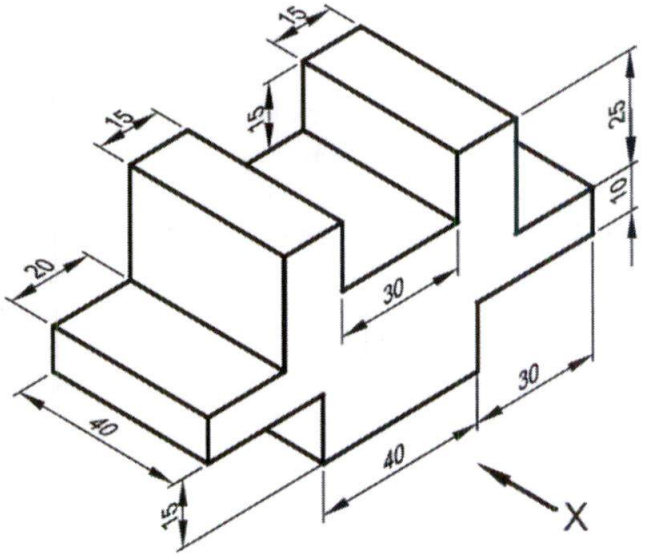
OR

8. A hexagonal prism of base side 30 mm and axis 70 mm is resting on its base on the ground with a side of base inclined at 45° to the V.P. It is cut by an auxiliary inclined plane inclined at 45° to the H.P. and passes through a point 15 mm below the top end of the axis. Draw the development of the lateral surface of the truncated prism. [14M]

9. A hexagonal prism of base side 25 mm and axis 70 mm is placed centrally on its rectangular face over a cylindrical block of base diameter 80 mm and thickness 30 mm. Draw the isomeric projection of the arrangement. [14M]

OR

10. Pictorial view of an object is shown in Fig. Using first angle projection, draw its (i) front view from the X-direction, (ii) top view and (iii) left-hand side view. [14M]



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