29/25

Code No.: ME104ES | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
I–B.TECH–I–Semester End Examinations (Supply) -January- 2025
ENGINEERING GRAPHICS
(Common for MECH, ECE, CSM, AI&DS)

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

Note: It consists of 5 units. Answer any one full question from each unit. Each question carries 14 marks and may have a, b, c as sub questions.

5*14=70 M

1. A stone is thrown from a building 6.0 meters height. It just crosses the top of a tree 12 meters high. Trace the path of projectile if the horizontal distance between the building and the tree be 4.0 meters. Also find the distance of the point from the building where the stone falls on the ground. [14M]

OR

2. A rectangular plot of land area 2.0 hectares is represented on a map by a similar rectangle of 8 sq. cm. Calculate the RF of the scale of the map. The scale should be long enough to measure up to 600 meters. Show a length of 459m. [14M]

3. The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the H.P and 12 mm infront of the VP. Draw the projections of AB and determine its inclinations with the H.P and the V.P. [14M]

OR

4. A pentagonal plane with a 35 mm side is resting on one of its edges in the H.P. with its surface perpendicular to the V.P. The corner opposite to the edge on which it is resting is 40 mm above the H.P. draw its projections. [14M]

5. A pentagonal pyramid, base 25mm side and axis 50mm long has one of its triangular faces in the V.P. and the edge of the base contained by that face makes an angle of 30^0 with the H.P. Draw its projections. [14M]

OR

6. A cone of base 40 mm diameter and height 60 mm is standing on one of the points on the base circle and the base makes 30^0 to the ground and the axis is parallel to the VP. The axis leans towards the left. The object is cut by a section plane such that the view from the left shows the true shape of the section. The topmost portion of the section is 40 mm above the ground. Draw the true shape of the section and also find the inclination of the section plane with the VP and the HP. [14M]

7. A vertical cylinder of 60 mm diameter is penetrated by a horizontal square prism of 35 mm side. The axes of the two solids intersect each other. A rectangular face of the prism is inclined at 60^0 to V.P. Draw the lines of intersection. [14M]

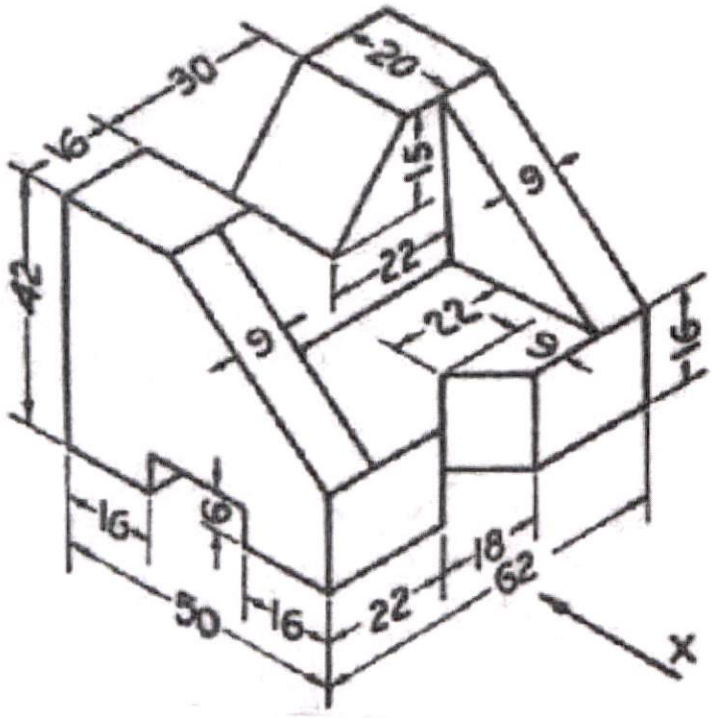
OR

8. A vertical hexagonal prism of 25 mm side of base and axis 60 mm has one of its rectangular faces parallel to VP. A circular hole of 40 mm diameter is drilled through the prism such that the axis of the hole bisects the axis of the prism at right angle and is perpendicular to VP. Draw the development of the lateral surface of the prism showing the true shape of the hole in it. [14M]

9 The frustum of a sphere with a 80 mm diameter and frustum circle with a 50 mm diameter is used as a paper weight. Draw its isometric projection. [14M]

OR

10 Draw front view, top view and side view of the object, whose isometric projection is shown below: [14M]



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