CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
I–B.TECH–I–Semester End Examinations (Supply) - December- 2025
ENGINEERING GRAPHICS
(Common for CSM, ECE, MECH, 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 12 marks and may have a, b, c as sub questions.

5*14=70 Marks

1.a) Draw a parabola when the distance between its focus and directrix is 50 mm. Also, draw a tangent and a normal at a point 70 mm from the directrix.   [[7M]

 b) Construct a scale of 1:40 to read metres, decimetres and centimetres and long enough to measure up to 6 m. Mark a Distance of 4.76 m on it.   [7M]

OR

2.a) Draw a cycloid of a circle of diameter 50 mm for one revolution. Also, draw a tangent and normal to the curve at a point 35 mm above the base line.   [7M]

 b) Draw the projection of the following point on a common reference line keeping the distance between their projection 20mm apart.   [7M]
 i) Point A is 25 mm below the H.P.and60 mm in front of the V.P
 ii) Point B is in the H.P. and 50 mm behind the V.P
 iii) Point C is 25 mm below the H.P and 55 mm behind the V.P.

3. Draw the projections of the following points on a common reference line   [14M]
 (i) Point A is 20 mm below the H.P. and 50 mm in front of the V.P.
 (ii) Point B is in the H.P. and 40 mm behind the V.P.
 (iii) Point C is 30 mm in front of the V.P. and in the H.P.
 (iv) Point D is 50 mm above the H.P. and 30 mm behind the V.P.
 (v) Point E is 20 mm below the H.P. and 50 mm behind the V.P.
 (vi) Point F is in the V.P. and 50 mm below the H.P.

OR

4. A circular plane of diameter 60 mm is resting on a point of its circumference on the V.P. The center is 40mm above the H.P., and surface is inclined at 45° tc V.P. and perpendicular to H.P. Draw its projections.   [14M]

5. A cylinder of 45 diameter and 70 long, is resting on one of its bases on H.P. It is cut by a section plane, inclined at 60 degrees with H.P and passing through a point on the axis at 15 from one end. Draw the three views of the solid and also obtain the true shape of the section.   [14M]
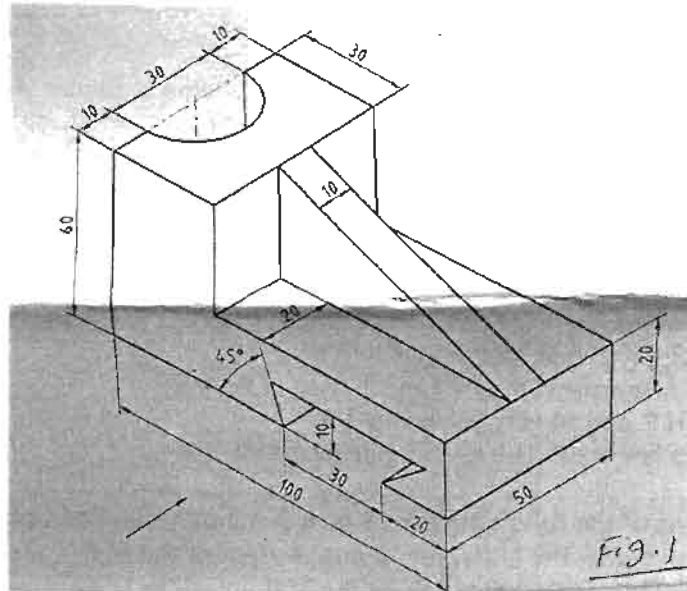
OR

6. Hexagonal pyramid of base side 30mm and axis 60mm has on edge of it's base on the ground. It's axis is inclined at 30° to the ground. And parallel to the V.P Draw it's projection   [14M]

7. A cylinder of base decimeter 50mm and axis 70mm is resting on ground with its axis [14M] vertically. It is cut by a section plane perpendicular to V.P, Inclined at 45° to H.P, pasting through the top end of the generator and cuts all the generator. Draw the development of the lateral surface.

OR

8. A Pentagonal pyramid of base side 30mm and 65mm is resting on its on the H.P with [14M] an edge of the base parallel toV.P it is cut by a sectional plane perpendicular to the V.P inclined at 60° to The H.P and bisecting the axis draw its front view and sectional top view true shape of the section

9. Draw the front view, top view and side view of the object. All dimensions are in mm. [14M]

Fig.1

OR

10. Draw the front view, top view and side view of the object. All dimensions are in mm. [14M]

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