

Code.No: 09A10291

R09

SET-1

**I - B.TECH EXAMINATIONS, DECEMBER - 2010**  
**ENGINEERING DRAWING**  
**(COMMON TO CE, EEE, ME, ECE, CSE, CHEM, EIE, BME, IT, MCT, ETM,**  
**MMT, ECC, MEP, AE, ICE & BT)**

**Time: 3hours****Max.Marks:75**

**Answer any FIVE questions**  
**All questions carry equal marks**

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- 1.a) The actual length of 300m is represented by a line of 10cm on a drawing. Draw a vernier scale to read up to 500m. Mark on it a length of 367m.
- b) A football kicked from ground reaches the ground travelling a horizontal distance of 35m. Maximum height reached by the ball is 18m. Trace the path of the ball and name the curve. [15]
- 2.a) The front view of line inclined at  $30^0$  to V.P is 65mm long. Draw the projections of a line, when it is parallel to and 40mm above H.P. and one end being 20mm in front of V.P.
- b) A thin circular plate of 40mm diameter having its plane vertical and inclined at  $40^0$  to V.P. Its center is 30mm above H.P. and 35mm in front of V.P. Draw the projections. [15]
3. A pentagonal prism of side of base 30mm axis 70mm is resting on one of its base edges in H.P. with its axis inclined at  $45^0$  to H.P. The top view of the axis is inclined at  $30^0$  to V.P. Draw the projections. [15]
4. A cone 50 mm diameter and axis 60mm long rests with its base on H.P. It is cut by a section plane perpendicular to H.P. and inclined at  $60^0$  to V.P. and at a distance of 10mm from the axis. Draw the sectional front view and true shape of section. [15]
5. A horizontal circular hole of 50mm diameter is drilled through a vertical cylinder of 80mm diameter and 120mm length. The axis of the hole is parallel to V.P. 10mm in front of the axis of the cylinder. Draw the views of the cylinder with the curves of intersection. [15]
6. Draw the isometric projection of a frustum of hexagonal pyramid side of base 40mm and side of top face is 20mm and height 60mm. [15]
7. Draw the front view, top view and side view for the part shown in figure. [15]

8. A straight line AB, 60mm long is parallel to and 12mm above the ground. It is inclined at  $30^\circ$  to the picture plane and its end 'A' is 25mm behind the picture plane. The station point is 60mm in front of picture plane, 50mm above ground plane and is contained by a central plane passing through the mid point of the line. Draw the perspective view. [15]

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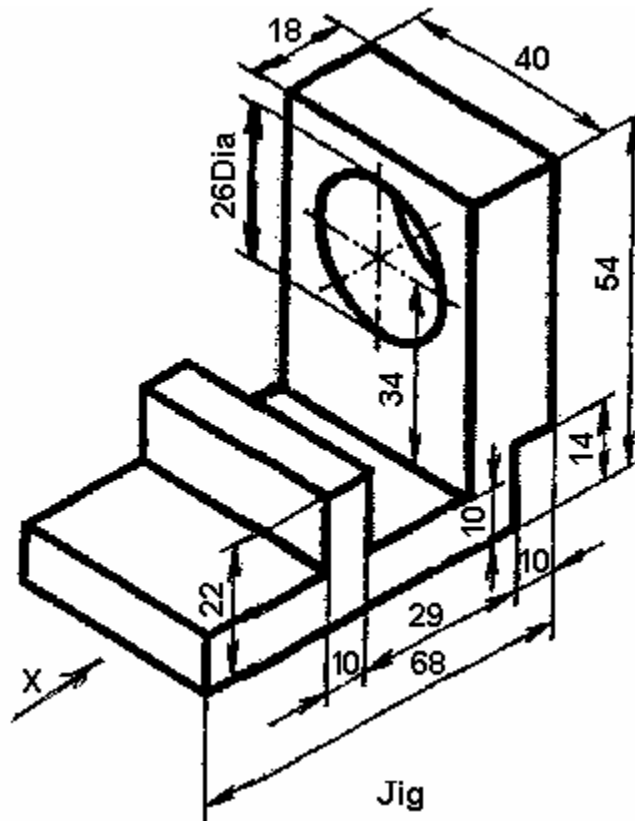
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- - -

- 1.a) The vertex of a hyperbola is 5cms from directrix. Draw the curve if the eccentric's is  $3/2$ . Draw the normal and tangent at a point 50mm from axis.
- b) A circle of 30mm diameter rolls on the concave side of generating circle of radius 30mm. Draw the path traced by a point on the generating circle for one complete revolution. [15]
- 2.a) A line AB 60mm long has its end 'A' in both H.P and V.P. It is inclined at  $30^0$  to H.P and  $45^0$  to V.P. Draw the projections.
- b) Draw the projections of a regular hexagonal lamina of 30mm side resting on one of its base edges on A.P with its plane perpendicular to H.P and inclined at  $45^0$  to V.P. [15]
3. Draw the projections of a square prism of side of base 30mm and axis 60mm long resting on one of its base edges in H.P with its axis inclined at  $30^0$  to H.P. and the top view of axis is  $45^0$  to V.P. [15]
4. A square prism, base 35mm side and axis 70mm long has its base on H.P with its faces equally inclined to V.P. It is cut by a plane, perpendicular to V.P, inclined at  $60^0$  to H.P and passing through a point on the axis 50mm above the H.P. Draw the front view, top view and true shape of section. [15]
5. A horizontal cylinder of 40mm diameter 120mm length penetrates a vertical cylinder of 60mm diameter 120mm height. The axes of the cylinders intersect each other. Draw the curves of intersection. [15]
6. A square pyramid of 2cm side and height 60mm, is placed centrally on the top of a square prism of 60mm side and height 40mm. Draw the isometric projection of the combination of solids. [15]

7. Draw the front view, top view and side view for the picture shown in figure.

[15]



(All Dimensions Are In mm)

8. A rectangle ABCD  $4\text{cm} \times 3\text{cm}$  has its surface parallel to and 1cm above GP. Its shorter edge AD is inclined at  $60^\circ$  to pp such that the corner 'A' is 1cm behind pp. The station point is 6cm in front of pp, 4cms above GP and lies in a central plane which passes through A. Draw the perspective view of the rectangle. [15]

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SET-3

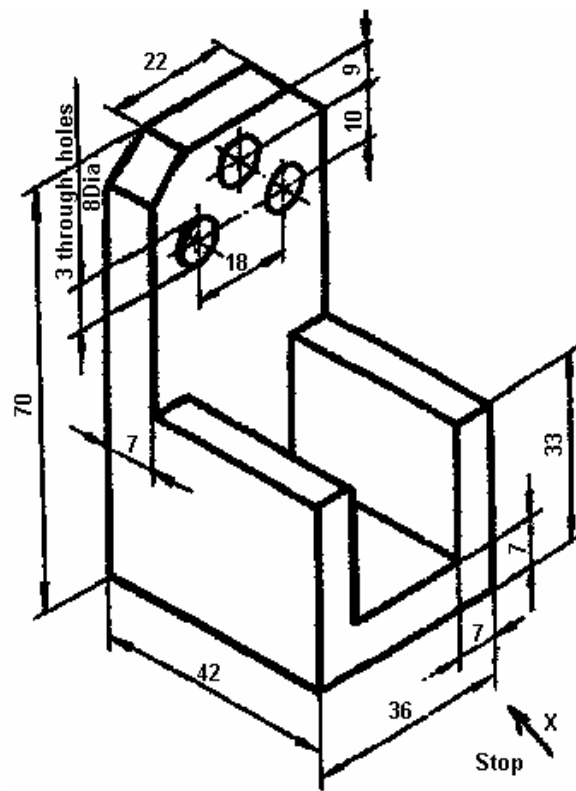
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- 1.a) The focii of an ellipse are 80mm apart and the minor axis is 60mm. Draw the ellipse by ores of circles method.
- b) A circle of 40mm diameter rolls on a horizontal line for one complete revolution with out slipping. Trace the path of a point on the circumference of circle. Name the circle and draw Normal and Tangent from a point 30mm from the center line. [15]
- 2.a) A vertical line AB 65mm long has its end A in H.P and 25mm in front of V.P. A line AC 90mm long is in H.P and parallel to V.P. Draw the projections of the line joining B and C and determine its inclination with H.P.
- b) A regular pentagon of 30mm side has one side on the ground and its plane is inclined at  $45^{\circ}$  to H.P and perpendicular to V.P. Draw the projections. [15]
3. Draw the projections of a cylinder of 40mm diameter and axis 60mm long resting on H.P on a point on its base circle with its axis inclined at  $30^{\circ}$  to H.P and top view of axis making  $45^{\circ}$  with V.P. [15]
4. A square pyramid of base 35mm axis 70mm long has its base on H.P with all edges of base equally inclined to V.P. It is cut by a section plane perpendicular to V.P, inclined at  $45^{\circ}$  to H.P and passing through a point 20mm below the apex. Draw sectional top view, side view and true shape of section. [15]
5. A vertical cylinder of 50mm diameter and height 120mm is penetrated by a horizontal cylinder of same size and same length. The axis of the horizontal cylinder is parallel to V.P and is 7mm away from the axis of vertical cylinder. Draw the projections showing the curves of intersection. [15]
6. A Hexagonal prism of base 30mm side and 70mm long has a square hole of sides 20mm at the center. The axis of square hole coincides with the axis of hexagon. Draw the isometric view of the prism with hole. [15]
7. Draw Front View, top view and side view for the part shown in figure. [15]



(All Dimensions Are In mm)

8. Draw the perspective view of a straight line AB, 60mm long parallel to both picture plane and ground plane and 10mm above GP and 15mm behind pp. The station point is 50mm in front of pp, 35mm above GP and is contained by a central plane 16mm to the left of A. [15]

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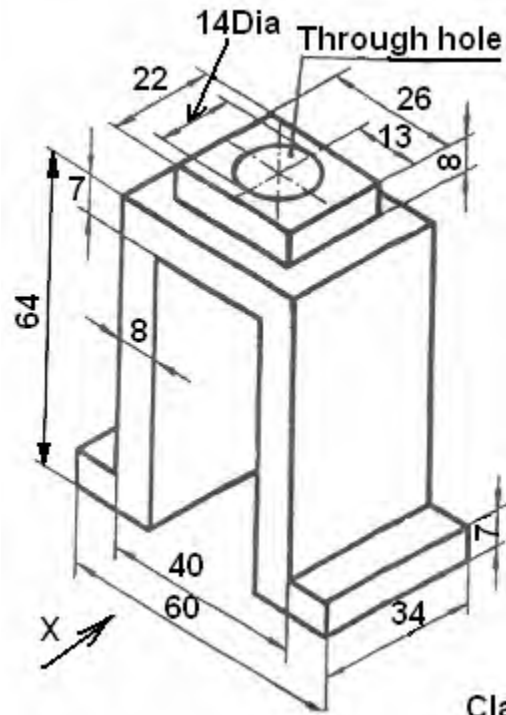
**Time: 3hours****Max.Marks:75**

**Answer any FIVE questions**  
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- - -

- 1.a) Construct a diagonal scale of R.F = 1 : 32,00,000 to show kilometers and long enough to measure upto 400 km. Show on it a distance of 257 km on it.  
 b) Draw an ellipse in a parallelogram having sides 15cm and 9 cm long and an included angle of 60 degrees. [15]
- 2.a) The top view of a line 75 mm long measures 65mm, while its front view is 55 mm. Its one end 'A' is in H.P. & 12mm in front of V.P. Draw the projections of line AB and determine its inclination with HP & VP.  
 b) A rectangular lamina of 30 mm × 40 mm is resting on one of its sides in HP. Its surface is perpendicular to HP and inclined at 30° to V.P. Draw the projections. [15]
3. A pentagonal pyramid side of base 30 mm and axis 60 mm long rests on one of its base edges on HP and making an angle of 30° to V.P. Its axis makes an angle of 45° with HP. Draw the projections. [15]
4. A cone 50 mm diameter 70 mm axis rests on its base in HP. It is cut by a section plane perpendicular to V.P, inclined at 45° to HP and cuts the axis at a point 25 mm from the apex. Draw its front view, sectional top view, sectional side view & true shape of section. [15]
5. A vertical cone, diameter of base 70 mm and the axis 90 mm is completely penetrated by a cylinder of 40 mm diameter. The axis of the horizontal cylinder is parallel to V.P and intersects. The axis of cone at a point 25 mm above the base. Draw the projections of the solids showing the curves of intersection. [15]
6. A square pyramids of side of base 2 cm and height 4 cm is placed centrally on the top of the cylindrical block of 60 mm diameter and height 40 mm. Draw the isometric view of the combination. [15]

7. Draw the front view, top view, & side view for the part shown in figure. [15]



(All Dimensions Are In mm)

8. A circular lamina of 50 mm diameter lies on the ground plane and touches the pp. The station point is 60 mm in front of pp and 50 mm above the GP. The centre plane passes through the centre of the circle. Draw the perspective view of the circle. [15]

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