

Subject Code : R10205/R10

Set No - 1

I B.Tech II Semester Supplementary Examinations Feb. - 2015

ENGINEERING DRAWING

(Common to All Branches)

Time: 3 hours

Max. Marks : 75

Answer any FIVE Questions

All Questions carry equal marks

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1. The foci of an ellipse are 80mm apart and the minor axis is 55mm long. Determine the length of the major axis and draw the ellipse by concentric-circle method. Draw a curve parallel to the ellipse and 20mm away from it. [15]
2. A line AB of 80 long has its end A, 15 from both H.P and V.P. The other end B is 40 above H.P and 50 in front of V.P. Draw the projections of the line and determine the inclinations of the line with H.P and V.P. [15]
3. A line of 100 mm long makes an angle of 35^0 with H.P and 45^0 with V.P. Its midpoint is 20 mm above H.P and 15 mm in front of V.P. Draw the projections of the line. [15]
4. An equilateral triangle of side 50 has its plane parallel to H.P and 30 away from it. Draw the projections when one of its sides is
 - (i) perpendicular to V.P
 - (ii) parallel to V.P
 - (iii) Inclined to V.P at an angle of 45^0 .[5+5+5]
- 5.(a) A pentagonal prism of side of base 25 and axis 50 long is resting on one of its faces on H.P, with the axis perpendicular to V.P and a base 15 away from V.P. Draw its projections. [8+7]
- (b) Draw the projections of a cylinder of 40 mm diameter, and axis 60 long when it is lying on H.P, with its axis inclined at 45^0 to H.P and parallel to V.P.
- 6.(a) Draw the projections of a cone of diameter of base 40 and axis 60 long when it is lying on a point of the base on H.P, with its axis inclined at 45^0 to H.P and parallel to V.P. Follow the auxiliary plane method. [8+7]
- (b) A Square pyramid of side of base 30 and axis 50 long it's freely suspended from a corner of its base. Draw the projections. Follow the auxiliary plane method. [8+7]



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7. Draw the isometric view of the ribbed angle plate, Shown in figure.1 All dimensions are in mm.

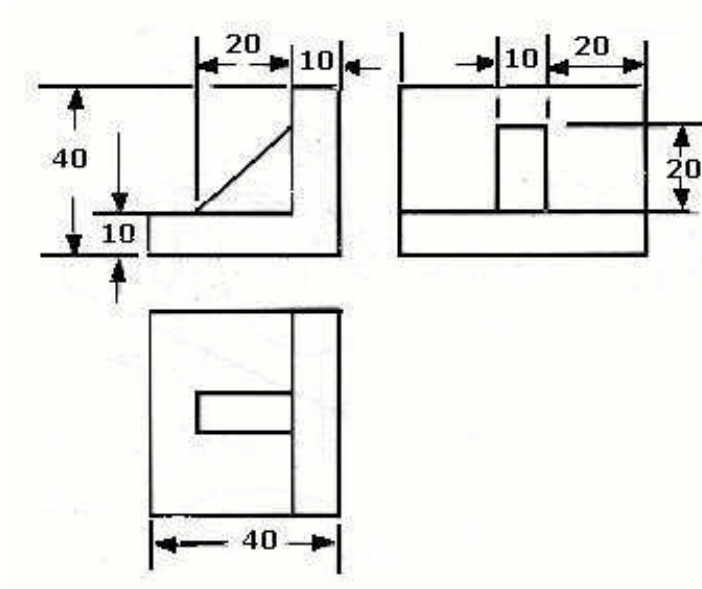


Fig.1

8. Draw the front view, top view and left side views of V- block as shown in figure.2. All dimensions are in mm

[15]

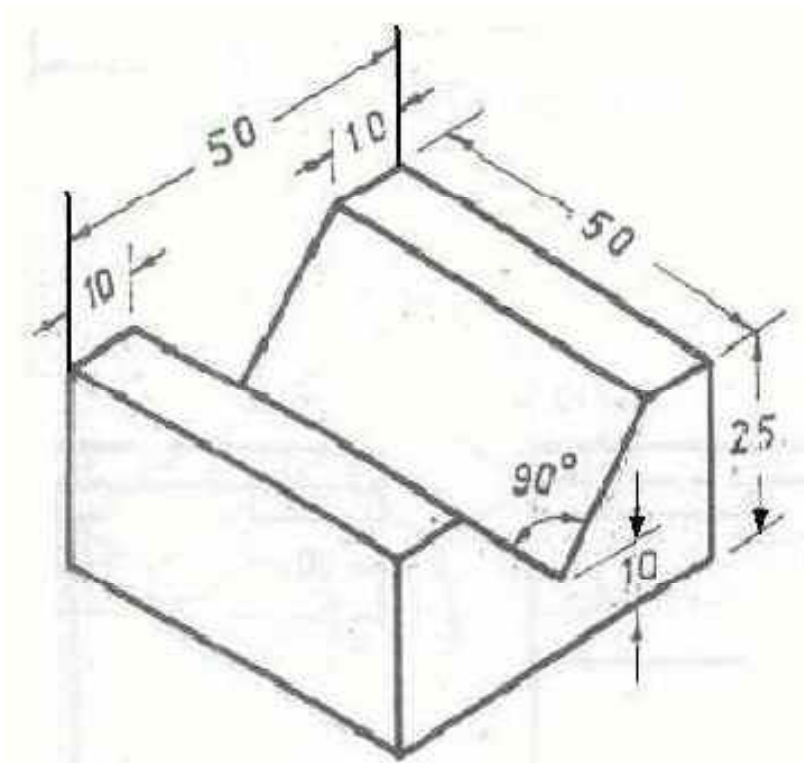


Fig.2

[15]



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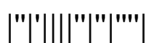
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**Answer any FIVE Questions
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* * * * *

1. The major and minor axes of an ellipse are 120 and 80. Draw an ellipse by
(i) Oblong method.
(ii) Arcs of circles method. [7+8]
- 2.(a) A line AB is 30 long and inclined at 30^0 to H.P and parallel to V.P. The end A of the line is 15 above the H.P and 20 in front of V.P. Draw the projections of the line.
(b) A line AB is 30 long and inclined at 30^0 to V.P and parallel to H.P. The end A of the line is 15 above the H.P and 20 in front of V.P. Draw the projections of the line. [8+7]
3. A line 110 mm long makes an angle of 45^0 with H.P and 60^0 with V.P. Its midpoint is 20 above H.P and 15 in front of V.P. Draw the projections of the line. [15]
- 4.(a) A rectangular plane of size 60×30 has its shorter side on H.P and inclined at 30^0 to V.P. Draw the projections of the plane, if its surface is inclined at 45^0 to H.P.
(b) A rectangular plane of size 50×25 is perpendicular to both H.P and V.P. The longer edges are parallel to H.P and the nearest one is 20 above it. The shorter edge, nearer to V.P is 15 from it. The plane is 50 from the profile plane. Draw the projections of the plane. [8+7]
5. A cylinder of diameter 60 and axis 70 long is having its axis inclined at 45^0 to V.P and 30 to H.P. Draw its projections. [15]
- 6.(a) Draw the projections of hexagonal pyramid is situated, with base on H.P and a side of the base parallel to and 25 from V.P, taking the side of the base equal to 40 and the length of the axis as 70.
(b) Draw the projections of a cone with its apex on H.P and 40 from V.P, The axis being perpendicular to H.P taking the diameter of the base equal to 50 and the length of the axis as 70. [8+7]



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Set No. 3

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1. (a) Draw a diagonal scale of RF= 1 / 2.5 and long enough to measure 30cm. Show a distance of 22.5 cm on it.
- (b) Construct a Hexagon inscribed in a circle of 60mm diameter. [7+8]

2. (a) Draw the projections of the following points on the same ground line, keeping the distance between projectors equal to 30 mm.
 - i. Point A, 30 mm below the HP, 20 mm in front of VP
 - ii. Point B, in the VP, 20 mm above HP
 - iii. Point C, 30 mm below the HP, 20 mm behind the VP
 - iv. Point D, in the HP, 40 mm behind VP
- (b) A line AB 50 mm long is in HP and parallel to the profile plane. The end A is 15 mm in front of VP. Draw all the three principal views. [8+7]

3. The front view of a line AB measures 60 mm and is inclined at 45° to reference line. The end A is 30 mm above HP, the HT of the line is 15 mm in front of VP the line is inclined at 30° to HP. Draw the projection of the line and determine its true length, inclination with VP and locate its VT. [15]

4. A rectangular plate 80 x 50 mm has one of its shorter edges in the VP inclined at 40° to the HP. Draw its top view if its front view is a square of side 50 mm. [15]

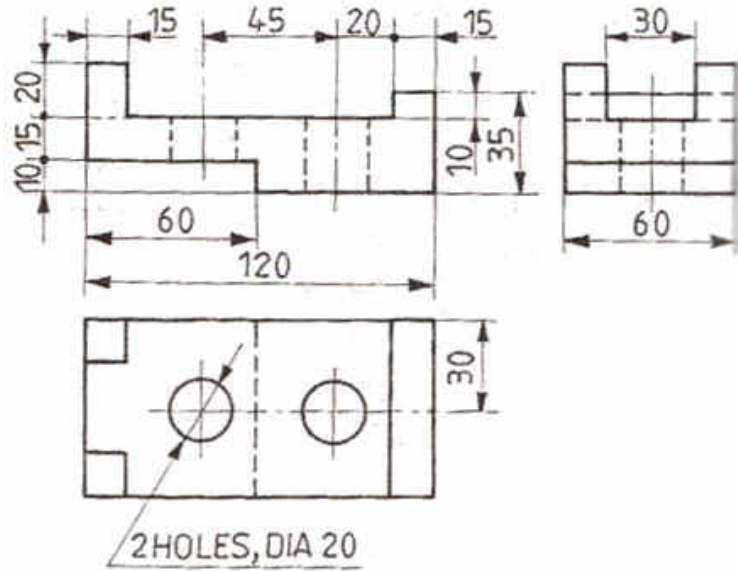
5. A square prism, side of base 35 mm and height 50 mm rests with its base on HP. Such that one of its rectangular faces is inclined at an angle of 30° to VP. Draw its projections. [15]

6. A square pyramid with side of base 40 mm and axis 60 mm rests with one of the base diagonals inclined at 60° to HP and other diagonal is parallel to both HP and VP. Draw its projections. [15]

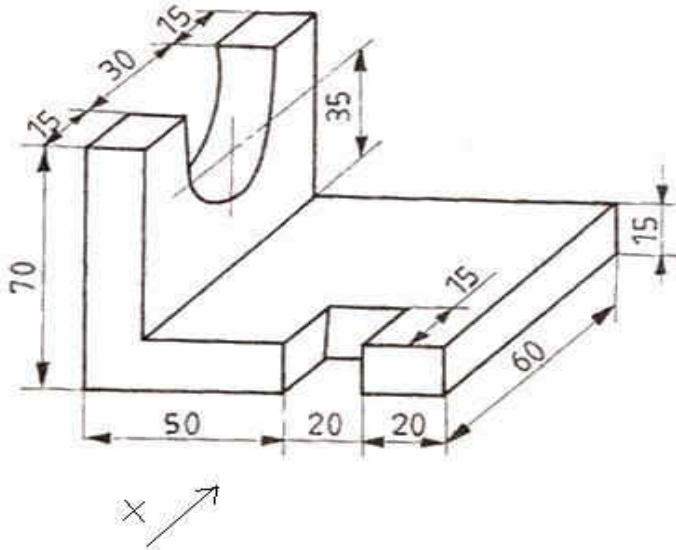
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7. Draw the isometric Projections of the following Fig. . [15]



8. Draw orthographic projections of the following isometric view as shown in Fig. [15]





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1. The distance between two fixed points is 65 mm. A point P moves such that the sum of its distance from two fixed points is always a constant and is equal to 100 mm. Draw the locus of P and determine the axes lengths. [15]

2. (a) A line AB 50 mm long is in the VP and parallel to the profile plane. The end A is 20 mm above HP. Draw all the three principal views.

- (b) A point 30 mm above XY line is the front view of two points E and F. The top view of E is 40 mm behind the VP, and the top view of F is 50 mm in front of the VP. Draw the projections of the two points and state their positions with reference planes and quadrants in which they lie? [8+7]

3. A line AB 80 mm long has its end A in both HP and VP, and inclined at 30° to HP and 45° to VP. Draw its projections and traces. [15]

4. A circular plane of diameter 60 mm is touching the VP with a point on its circumference. The plane is inclined to V.P and perpendicular to HP the centre of the plane is 40 mm above HP. draw its projections. [15]

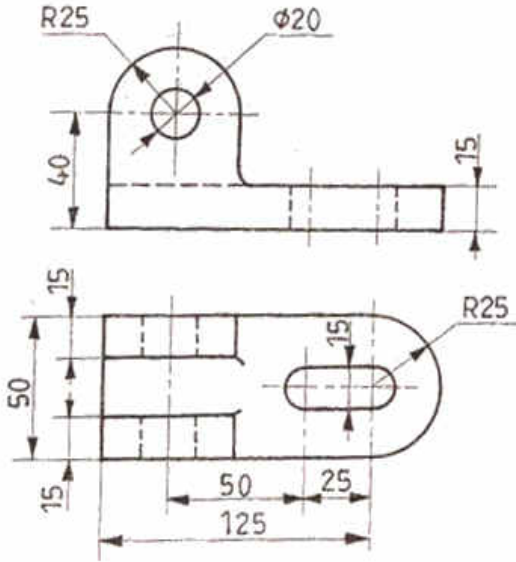
5. Draw the projections of a hexagonal prism of base 25mm and axis 60mm long, when it is resting on one of its corners of the base on H.P. The axis of the solid is inclined at 45° to HP. [15]

6. A hexagonal pyramid, side of base 25mm long and height 70mm, has one of its triangular faces perpendicular to HP and inclined at 45° to the VP. Draw its projections. [15]

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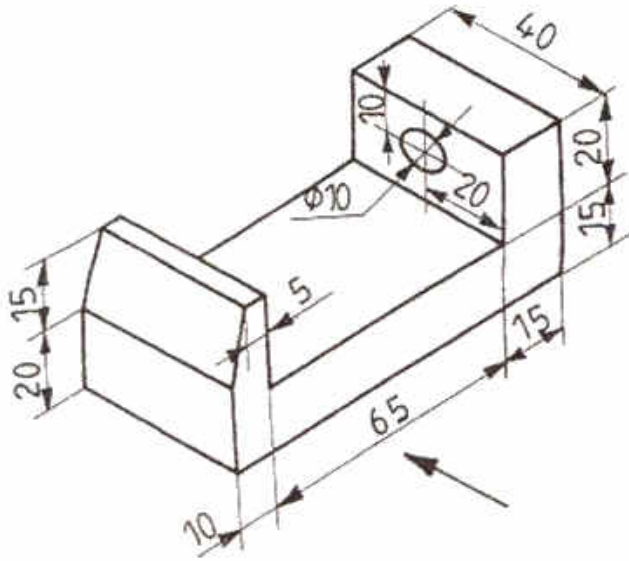
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7. Draw the isometric projection of the following Fig.



[15]

8. Draw orthographic projections of the following isometric view as shown in Fig.



[15]

