Set No - 1

Subject Code : R10205/R10

I B.Tech II Semester Supplementary Examinations January / February - 2012

ENGINEERING DRAWING

(Common to Electronics & Communication Engineering, & Bio-Technology)

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

Answer any FIVE Questions

All Questions carry equal marks

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1. An area of 144 sq. cm on a map represents an area of 36 sq. km on the field. Find the RF of scale for this map and draw a diagonal scale to show kilometer. Hectometre and decameter so as to messure up to 7 km. Indicate on it a distance of 6.56 km.

[15M]

2.(a) A point A is 20 mm above the HP and 25 mm infront of the VP. Another point B is 25 mm behind the VP and 50 mm below the HP. Draw the projections of A and B. Keeping the distance between their projectors equal to 70 mm.
Draw straight lines joining. (i) their front views and (ii) their top views

(b) A line SV, 75 mm long, is parallel to VP and inclined to HP by an angle 45^0. Point S is 30 mm below HP and 20 mm infront of VP. Point V is in first quadrant. Draw the projections of the straight line SV.

[7M + 8M]

3. The top view and the front view of the line GH, measures 53 mm and 65 mm respectively. The line is 75 mm long. Point G is on the ground and 40 mm behind VP. Draw the projections of the line GH and determine its inclinations with HP and VP.

[15M]

4. A pentagonal plate, side 25 mm is resting on HP on one of its corners with opposite edge to the corner making 30^0 with VP. The plate is inclined to HP by 45^0. Draw its projections.

[15M]

5. A heptagonal prism, side of the base 30 mm and height 90 mm resting on one of its edges on HP with axis inclined to HP at an angle of 45^0. Draw the projections of the prism.

[15M]

6. Draw the projections of a pentagonal pyramid, side of base 40 mm and height 75 mm, is resting on HP on one of its edges of base with axis parallel to VP and inclined to HP by 60^0.

[15M]

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Set No - 1

7. Figure A shows the isometric view of an object. Draw the front view, top view and both side views.

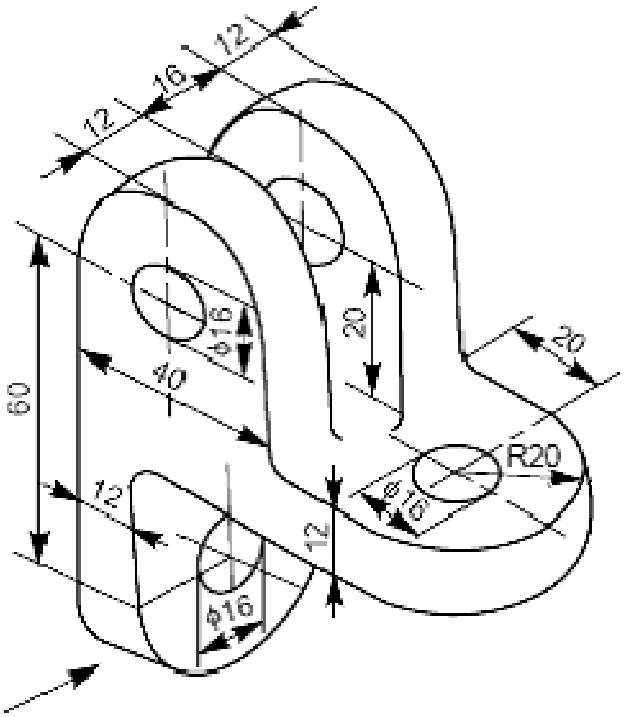

Figure A

[15M]

8. Draw the isometric projection of a sphere resting centrally on the top of a frustum of a cone of bottom base 50 mm diameter, top base 20 mm diameter, height of the frustum 70 mm and diameter at the sphere is 25 mm.

[15M]

Set No - 2

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ENGINEERING DRAWING

(Common to Electronics & Communication Engineering, & Bio-Technology)

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

Answer any FIVE Questions

All Questions carry equal marks

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1. Distance between Delhi and Chennai is 1800 km. on a railway map, it is represented by 36 cm length. Calculate the RF and draw a diagonal scale to read up to a single kilometer. Mark on it the following distances: (i) 76 km. (ii) 593 km.

[15M]

2.(a) Two points U and V are in the HP. The point V is 30 mm infront of the VP while V is behind the VP. The distance between their projectors is 80 mm and the line joining their top views makes an angle of 40^0 with xy. Find the distance of the point V from the VP.

(b) The elevation of a line AB, 75 mm long, measures 55 mm. The line is parallel to HP and inclined to VP. Its end A is in VP and 20 mm above HP. Draw the projections of the line and determine its inclination with VP. Point A is in the first quadrant.

[7M + 8M]

3. The front view of the line AB, inclined at 30^0 to the VP measures 65 mm. Two ends of the line A and B are 50 mm and 20 mm below HP respectively. The VT of the line is 5 mm below HP. Draw the projections and determine the true length of AB, its inclinations with HP and its HT. Assume the line AB in 3^{rd} quadrant.

[15M]

4. A regular pentagon of 50 mm sides is resting on one of its sides on the HP. Such that it is parallel to and 25 mm infront of the VP. If the highest corner of the pentagon rests in the VP, draw its projections and find the angle made by a plane with the HP.

[15M]

5. A Cylinder diameter of base 60 mm and height 70 mm, is having a point of its periphery of base in VP with axis of cylinder inclined to VP by 45^0 and parallel to HP. Draw the projections of the cylinder.

[15M]

6. A regular tetrahedron of edges each 40 mm long rests on one of its corners on VP with its axis inclined to VP at 45^0. Draw its projection.

[15M]

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Set No - 2

7. Figure B shows the pictorial view of a casting. Draw the front view, top view and both the side views.

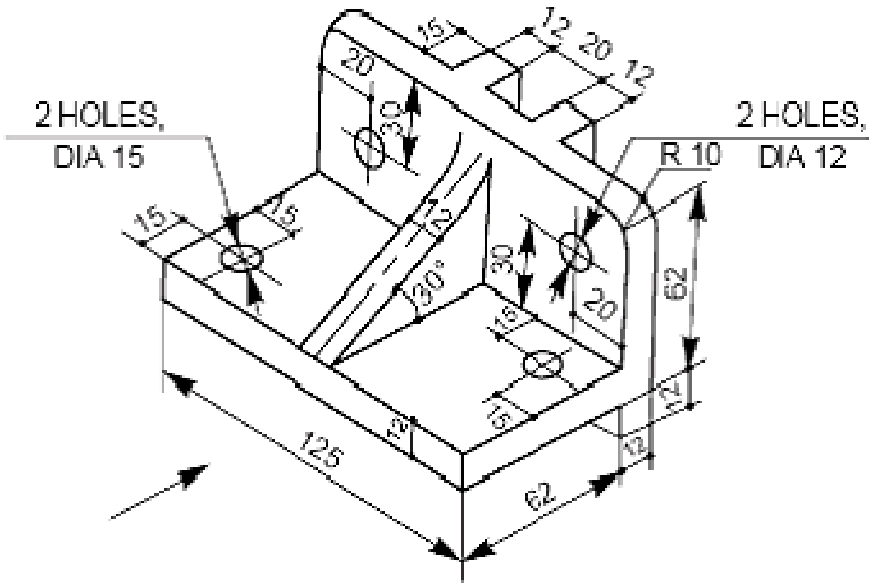

Figure B

[15M]

8. A heptagonal pyramid of base edge 45 mm and axis 80 mm long is cut by a section plane inclined at 60^0 to HP, normal to VP and passing through the centre of the axis. Draw the isometric projection of the trancated pyramid.

[15M]

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ENGINEERING DRAWING

(Common to Electronics & Communication Engineering, & Bio-Technology)

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

Answer any FIVE Questions

All Questions carry equal marks

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1. Construct a vernier scale when 1.8 inch represents a length of 10 ft and capable to read up to 10 yards. Mark on it (i) 3 yd. 2 ft 3 in. (ii) 8 ft 2 in.

[15M]

2.(a) The distance between the end projectors of a straight line PQ is 70 mm. Point P is 30 mm above HP and 25 mm behind VP. Point Q is 40 mm above HP and 20 mm infront of VP. Draw the projections of a straight line PQ. State through which plane the line will pass and what will be the distance of that point from other principal plane.

(b) A line PQ, 70 mm long, is parallel to HP and inclined to VP by 60^0. Point Q is 20 mm above HP and 30 mm infront of VP. Point P is behind VP. Draw the projections of line PQ.

[7M + 8M]

3. The ends of a line PQ are on the same projector. The end P is 30 mm below the HP and 15 mm behind the VP. The end Q is 55 mm above the HP and 45 mm infront of the VP. Determine the true length and traces of PQ and its inclinations with the two planes.

[15M]

4. An isosceles triangular plate of 50 mm base and 75 mm attitude, appears as in equilateral triangle of 50 mm in top view. Draw the projections of a plate if its 50 mm long edge is on the HP and invited at 45^0 to the VP. What are the inclinations of a plate with the HP and the VP ?

[15M]

5. A Pentagonal prism, side of base 30 mm and length 80 mm resting on one of its corners on HP with the axis inclined to HP at angle of 60^0. Draw the projections of the prism.

[15M]

6. A frustum of a cone, diameter of base 60 mm, diameter of top 30 mm and height of frustum 40 mm is resting on HP on one of its generators with axis parallel to VP. Draw the projections of the frustum.

[15M]

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7. Figure C shows the isometric view of an object. Draw the elevation plan and both side views.

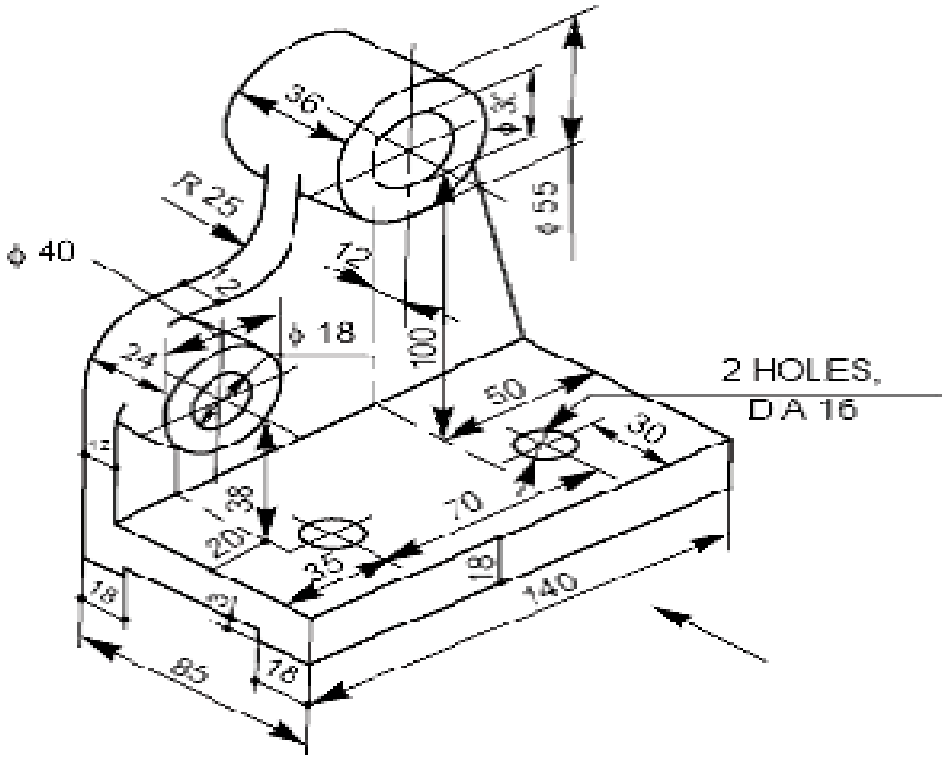

Figure C

[15M]

8. Frustum of a hexagonal pyramid of base edge 35 mm, edge of top face 20 mm and axis 70 mm lies with base on HP and axis vertical. Draw its isometric projection.

[15M]

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ENGINEERING DRAWING

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

Answer any FIVE Questions

All Questions carry equal marks

* * * * *

1. Describe an ellipse passing through all the corners of a triangle of sides 36 cm, 48 cm and 72 cm.

[15M]

2.(a) Draw the projections of the following points on the same ground line, keeping the projectors 30 mm apart:
P. 25 mm below HP and 35 mm behind the VP.
Q. 40 mm below the HP and 25 mm infront of the VP.
R. 25 mm above the HP and 15 mm behind the VP.

(b) Two pegs P and Q, fixed on the same wall are 3000 mm apart. The distance between the pegs measured parallel to the floor is 2.4 m. If the peg P is 1 m above the floor. Draw the projections of line joining two pegs. Find the height of the second peg Q. Also find the inclination of the line joining two pegs with the floor.

[7M + 8M]

3. Two lemons on a tree planted near the compound wall of a bunglow are 1.0 m and 1.25 m above the ground and 0.5 m and 0.75 m from a 15 cm thick compound wall but on the opposite sides of it. The distance between lemons measured along the ground are parallel to the wall is 1.0 m. Determine the real distance between centres of two lemons.

[15M]

4. ABC is a triangle of sides AB=75 mm, BC=60 mm and CA=45 mm. Its largest side AB is in VP and inclined at 30^0 to HP. Its surface makes an angle of 45^0 with the VP. Draw its projections.

[15M]

5. Draw the projections of the pentagonal prism, side of above 30 mm and height 75 mm resting on one of its base edges on HP and the axis makes an angle of 40^0 with the HP.

[15M]

6. A hexagonal pyramid, side of base 25 mm and height 60 mm, is resting on the HP on one of the corners of the base such that the slant edge, containing the corner on which it rests on HP is perpendicular to HP and the axis of the pyramid is parallel to VP. Draw the projections of the pyramid.

[15M]

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7. Figure D shows the isometric view of an object. Draw the elevation, plan and both side views.

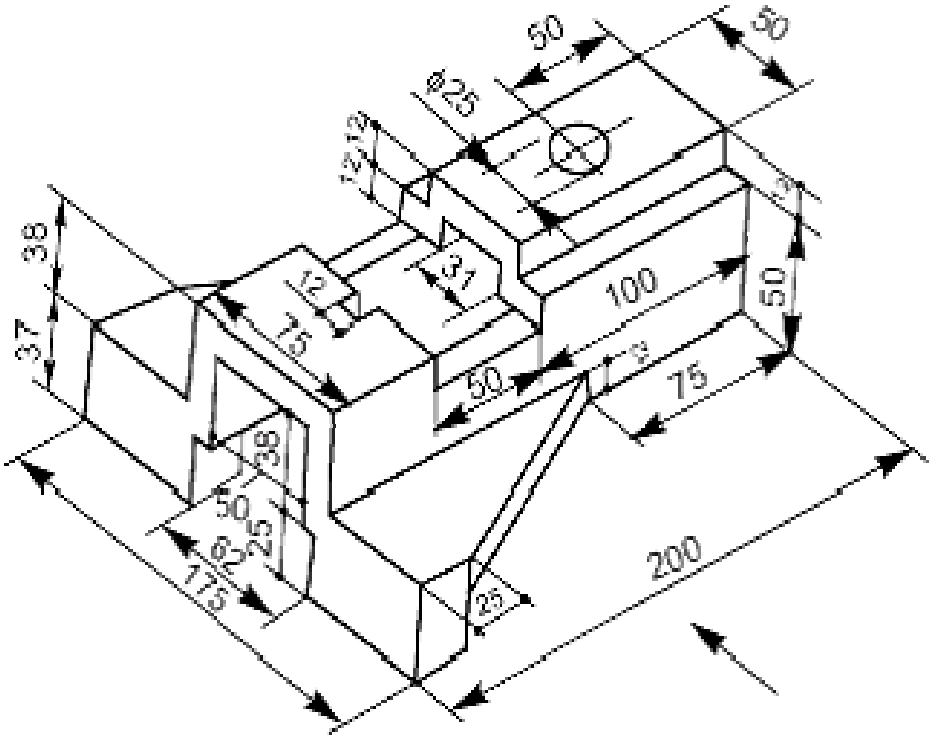

Figure D

[15M]

8. A hexagonal prism having the side of base 30 mm and height 75 mm is resting on one of the corner of the base and its axis is inclined at 35^0 to the HP. Draw its projections and also prepare the isometric projection of the prism in the above stated condition.

[15M]