

Code No: R10205/R10

Set No. 1

**I B.Tech II Semester Supplementary Examinations, Feb/Mar 2014
ENGINEERING DRAWING**

(Common to CE,CSE,ME,CHEM,BME,EIE,EComE,AE,AME and PT)

Time: 3 hours

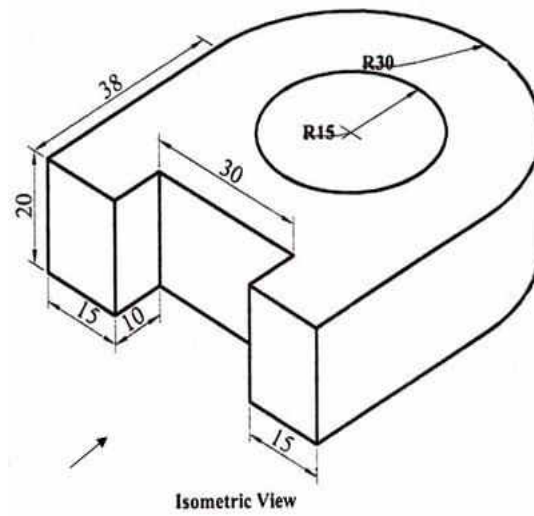
Max Marks: 75

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

1. (a) Construct a vernier scale of R.F. = $1/4$ to show decimeters and centimeters and millimeters. The scale is long enough to measure upto 6 decimetres. Show a distance of 54.6 cm on it.
- (b) Construct a ellipse of 60 mm major axis and 40 mm minor axis by arcs of circle method? [7+ 8]
2. (a) The front view of a line which is inclined at 30^0 to VP is 65 mm long. Draw the projections of the line when it is parallel to and 30 mm above HP, its one end being 30 mm in front of VP.
- (b) A point P is 30mm above HP and 20mm in front of VP. Draw the projection of the point and find its shortest distance from the reference planes. [7+8]
3. The top view of a line is 80 mm long and inclined to XY at 40^0 . One end is 20 mm above HP and 30 mm in front of VP. The other end is 55 mm above HP and is in front of VP. What is the true length of the line and its inclination with HP and VP? Also show its traces. [15]
4. Draw the projections of a regular hexagonal lamina of 25 mm side, having one of its sides in the HP and inclined at 60^0 to the VP and its surface making an angle of 45^0 with the HP. [15]
5. A triangular prism, side of base 40 mm and height 60 mm long rests with its base on the HP. Such that one of its rectangular faces near to VP is parallel and 8mm in front of it. Draw its projections. [15]
6. A cone of base diameter 30mm and height 60 mm is standing on the ground with its base inclined at 45^0 to HP and axis parallel to VP. Draw its projections. [15]
7. Draw orthographic projections from the following isometric figure. [15]

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8. A hemisphere of radius 30mm is placed centrally on a square slab of side 40mm and thickness 30mm so that the flat circular surface is on the top. Draw the isometric projection of the solids in the given position.



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Set No. 2

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Time: 3 hours

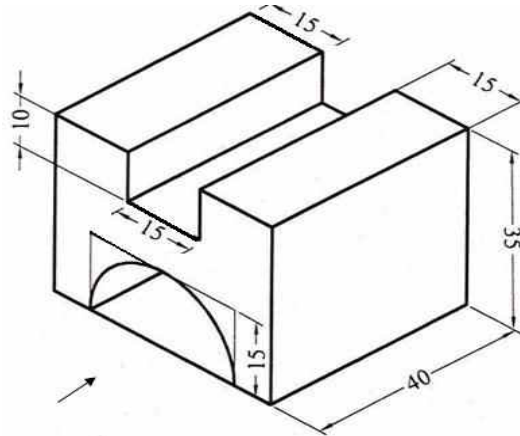
Max Marks: 75

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

1. (a) Construct a heptagon of side 30mm with a side vertical.
(b) Construct an ellipse of vertical major axis 100mm and horizontal minor axis 70mm long. [7+8]
2. (a) The front view of a 70mm long line PQ measures 50 mm. The line is parallel to the HP and 30 mm above the HP with one of its ends in the VP. Draw the projections of the line and determine its inclination with the VP.
(b) Draw the projections of a 75 mm long line PQ. Its end P is 20 mm above HP and 15 mm in front of the VP. The line is parallel to VP and inclined to HP at 30^0 . [7+8]
3. The front view of a line AB measures 60 mm and is inclined at 45^0 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 30^0 to HP. Draw the projection of the line and determine its true length, inclination with VP and locate its VT. [15]
4. Draw the projections of a rhombus having diagonals 125 mm and 50 mm long, the smaller diagonal of which is parallel to both the principal planes, while the other is inclined at 30^0 to the HP. [15]
5. A cube 40mm resting on VP with one of its vertical faces making 30^0 to the horizontal plane. Draw its projections [15]
6. A square pyramid, base 40mm side and axis 75mm long is placed on the ground on one of its slant edge, so that vertical plane passing through that edge and axis making an angle of 30^0 with the VP. Draw its projections. [15]
7. Draw orthographic projections of the isometric projection given in figure.

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8. A cone of diameter 30mm base and 40mm height is surmounted over a square slab of 40mm side and 25mm thickness on HP so that one edge of the square is parallel to VP. Draw the isometric view of the combination.



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Set No. 3

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ENGINEERING DRAWING**

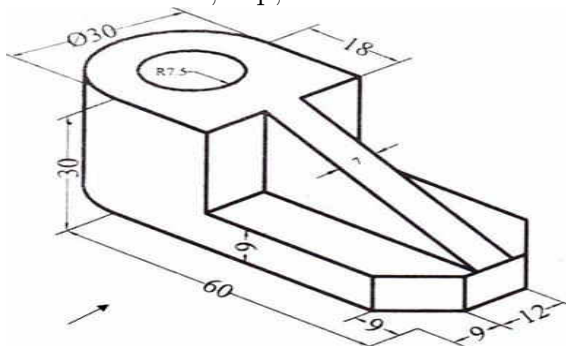
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Time: 3 hours

Max Marks: 75

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

1. (a) Construct a heptagon of side 30mm with a side vertical.
(b) Construct an ellipse of vertical major axis 90 mm and horizontal minor axis 60 mm long. [8+7]
2. (a) A line KL 60 mm long has its end K is 30 mm above HP and 20mm in front of VP. It is perpendicular to HP and parallel to VP. Draw its projections.
(b) A 70 mm long line PQ has its end P is 20 mm above HP and 15 mm in front of VP. The line is inclined at 40° to VP and parallel to HP. Draw its projections. [7+8]
3. The mid-point of a line 80 mm long is 25 mm above HP 30 mm in front of VP. The line is inclined 30° to HP and 40° to the VP. Draw the projections of the line. [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. Draw the projections of a square prism of 28 mm side of base and height 55mm rests with one of the corner on HP such that one of the base edges containing the corner on which the prism rests is inclined at 30° to HP.
6. Draw the projections of a square pyramid, base 35mm and height 60mm when it stands on one of its base edge on HP with its axis inclined at 45° to the HP and parallel to VP. [15]
7. Draw the front, top, and side views of the isometric view given in figure.



8. A hemisphere of radius 30mm is placed centrally on a square slab of side 40mm and thickness 30mm so that the flat circular surface is on the top. Draw the isometric projection of the solids in the given position.



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Set No. 4

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Time: 3 hours

Max Marks: 75

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

1. An ellipse has the major axis and the minor axis in the ratio of 3:2. Draw the ellipse when the major axis is 120 mm. [15]

2. (a) Draw the projections of the following points on the same ground line, keeping the distance between projectors equal to 40 mm. (i) Point P, 20 mm below the HP, 30 mm in front of VP (ii) Point Q, in the VP, 30 mm above HP (iii) Point R, 40 mm below the HP, 30 mm behind the VP (iv) Point S, in the HP, 50 mm behind VP

- (b) A line PQ 60 mm long is in HP and parallel to and 20mm in front of the profile plane. The end A is 25 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 pentagonal lamina of side 30 mm is having a side on both H.P and VP. The surface of the lamina is inclined at an angle of 60° with HP. Draw top view and front view of the lamina. [15]

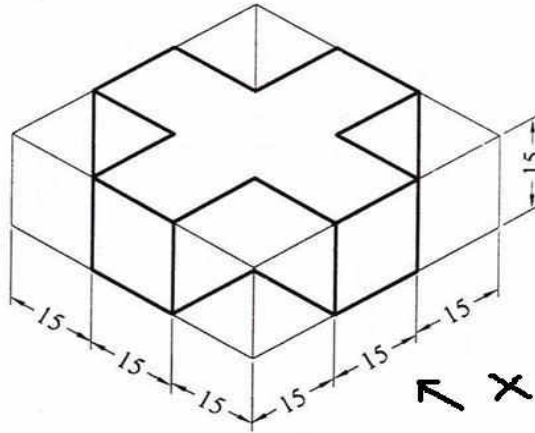
5. Draw the projections of a pentagonal prism 30 mm side and base 65mm long laying on one of its longer edges on HP with one rectangular face perpendicular to HP such that axis makes 60° with VP. [15]

6. A square pyramid of 50mm side of base and 50mm length of axis is resting on one of its triangular faces on the HP having slant edge containing the face parallel to the VP. Draw the projections of pyramid. [15]

7. Draw the front view looking from the direction of X, and top view, side view from the following figure.

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8. A cone of diameter 30mm base and 40mm height is surmounted over a square slab of 40mm side and 25mm thickness on HP so that one edge of the square is parallel to VP. Draw the isometric view of the combination.

