Subject Code: R10205/R10 **Set No - 1**

I B.Tech II Semester Regular Examinations Oct./Nov. - 2013

ENGINEERING DRAWING

(Common to BME, CE, ME, CHEM, AE, AME, PT branches)

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

Answer any FIVE Questions
All Questions carry equal marks

* * * * *

1. (a) Construct a regular heptagon of 30 mm side and inscribe a circle in it.
   (b) Construct a diagonal scale of representative fraction equal to 1/4000 to show meters and long enough to measure up to 400 meters. Also show a distance of 256 meters on the Scale. [8+7]
2. (a) A 80 mm line is parallel to and 30 mm in front of the vertical plane. Its two ends are 20 mm and 50 mm above the horizontal plane. Draw its projections and find its inclination with the horizontal plane.
   (b) The front view of a line, which is inclined at 30^o to the vertical plane, is 70 mm long. Draw the projections of the line, when it is parallel to and 50 mm below the horizontal plane, its one end being 20 mm in front of the vertical plane. [8+7]
3. A line AB of length 70 mm is inclined at 30^0 to the horizontal plane. Its end A is 16 mm above the horizontal plane and 24 mm in front of the vertical plane. Its front view measures 55 mm. Draw the top view of AB and determine its inclination with the vertical plane. [15]
4. A rectangular plate of 70 mm and 50mm long sides has a semi-circle on its longer side. Draw its projections when the longer side is parallel to the horizontal plane and inclined at 45^0 to the vertical plane, the surface of the plate making 60^0 with the horizontal plane. [15]
5. A rectangular block of 60 mm x 40 mm x 20 mm thick has a 25 mm hole drilled centrally through its largest faces. Draw the projections when the block has its 40 mm long edge parallel to the horizontal plane and perpendicular to the vertical plane and has the axis of the hole inclined at 30^0 to the horizontal plane. [15]
6. A pentagonal pyramid, of base 25 mm side and axis 60 mm long, has an edge of its base on the ground. Its axis is inclined at 45^0 to the ground and parallel to the vertical plane. Draw its projections. [15]

Subject Code: R10205/R10

Set No - 1

7. Projections of a casting are given in Fig. 1. Draw the isometric view of the casting. All dimensions are in mm.

[15]

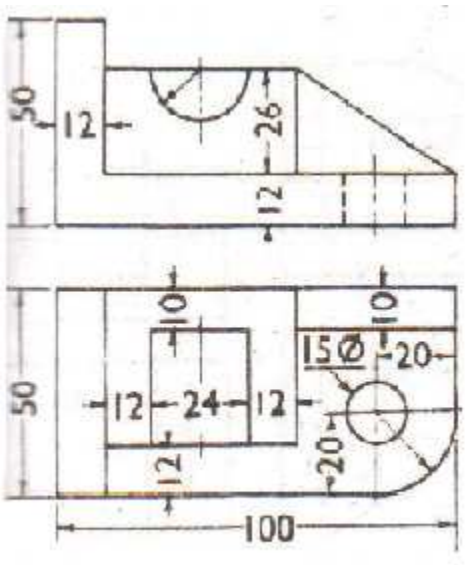

Fig. 1

8. Pictorial view of an object is shown in Fig. 2. Draw, to the scale of full size, the following views. All dimensions are in mm.
   (i) Front view
   (ii) Top view

[15]

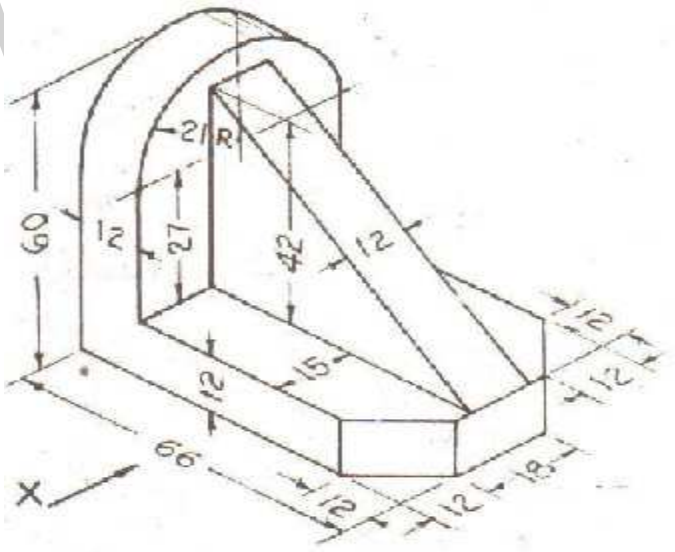

Fig. 2

Subject Code: R10205/R10 **Set No - 2**

I B.Tech II Semester Regular Examinations Oct./Nov. - 2013

ENGINEERING DRAWING

(Common to BME, CE, ME, CHEM, AE, AME, PT branches)

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

Answer any FIVE Questions
All Questions carry equal marks

* * * * *

1. (a) Describe a regular pentagon about a circle of 80 mm diameter.
   (b) Draw a vernier scale of representative fraction equal to 1/20 to read centimeters up to 5 meters and show a length representing 3.18 meters on it.

   [8+7]
2. (a) A 90 mm long line is parallel to and 20 mm below the horizontal plane. Its two ends are 30 mm and 60 mm behind the vertical plane respectively. Draw its projections and find its inclination with the vertical plane.
   (b) A vertical line PQ, 90 mm long, has its end P in the horizontal plane and 20 mm in front of the vertical plane. A line PR, 120 mm long, is in the horizontal plane and parallel to the vertical plane. Draw the projections of the line joining Q and R, and determine its inclination with the horizontal plane.

   [8+7]
3. A line AB of 100 mm long is inclined at 45^0 to the horizontal plane and its top view makes an angle of 60^0 with the vertical plane. The end A is in the horizontal plane and 15 mm in front of the vertical plane. Draw its front view and find its true inclination with the vertical plane.

   [15]
4. Draw the projections of a rhombus having diagonals of 100 mm and 40 mm long if its smaller diagonal is parallel to both the principal planes and the longer one is inclined at 60^0 to the horizontal plane.

   [15]
5. A hexagonal prism of base 30 mm side and axis 65 mm long rests on one of its rectangular faces on the ground. Its axis is inclined at 30^0 to the vertical plane. Draw its projections.

   [15]
6. A square pyramid, base 30 mm side and axis 70 mm long, has a triangular face on the ground and the vertical plane containing the axis makes an angle of 30^0 with the V.P. Draw its projections.

   [15]

Subject Code: R10205/R10

Set No - 2

7. Projections of a casting are given in Fig. 1. Draw the isometric view of the casting. All dimensions are in mm.

[15]

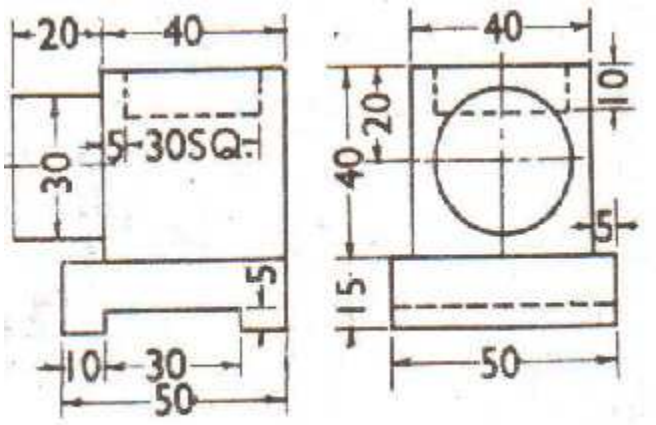

Fig. 1

8. Pictorial view of an object is shown in Fig. 2. Draw, to the scale of full size, the following views. All dimensions are in mm.
   (i) Front view
   (ii) Top view

[15]

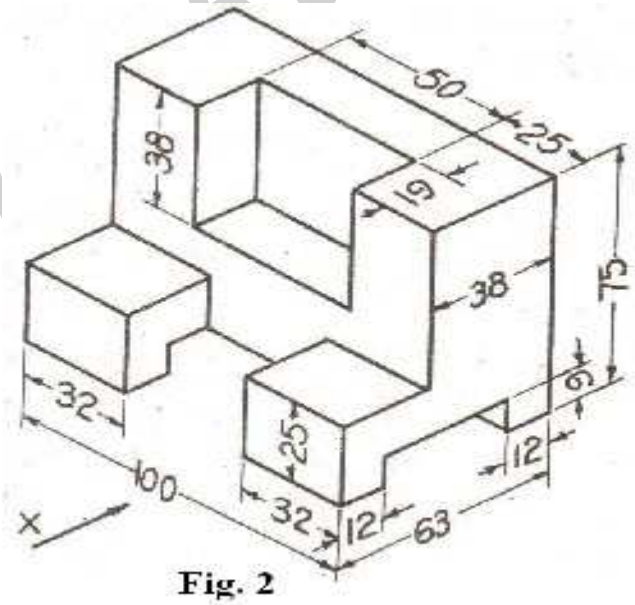

Fig. 2

Subject Code: R10205/R10 **Set No - 3**

I B.Tech II Semester Regular Examinations Oct./Nov. - 2013

ENGINEERING DRAWING

(Common to BME, CE, ME, CHEM, AE, AME, PT branches)

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

Answer any FIVE Questions
All Questions carry equal marks

* * * * *

1. The major axis of an ellipse is 120 mm long and the minor axis is 80 mm long. Find the foci and draw the ellipse by arcs of circles method. Draw a tangent to the ellipse at a point on it 20 mm above the major axis.

[15]

2. (a) A 70 mm long line is parallel to and 30 mm behind the vertical plane. Its two ends are 10 mm and 40 mm below the horizontal plane respectively. Draw its projections and find its inclination with the horizontal plane.
   (b) The top view of 80 mm long line is 65 mm. The line is parallel to and 20 mm behind the vertical plane. Its lower end is 20 mm above the horizontal plane. Draw its projections.

[8+7]

3. A line AB, inclined at 50^0 to the vertical plane, has its ends 60 mm and 20 mm above the horizontal plane. The length of the front view is 70 mm and its vertical trace is 12 mm above the horizontal plane. Determine the true length of AB, its inclination with the horizontal plane.

[15]

4. A regular hexagonal plate of 50 mm side has a central hole of 50 mm diameter. The plane stands vertical on the horizontal plane on one of its corners with its two sides vertical. Draw its projections when the plane surface is vertical and inclined at 30^0 to the vertical plane.

[15]

5. A cylindrical block of 80 mm diameter and 30 mm thick has a hexagonal hole of 25 mm side cut centrally through its flat faces. Draw its projections when it has its flat faces vertical and inclined at 30^0 to the vertical plane and two faces of the hole perpendicular to the horizontal plane.

[15]

6. A hexagonal pyramid, base 30 mm side and axis 60 mm long, has an edge of its base on the ground. Its axis is inclined at 30^0 to the ground and parallel to the vertical plane. Draw its projections.

[15]

Subject Code: R10205/R10

Set No - 3

7. Projections of a casting are given in Fig. 1. Draw the isometric view of the casting. All dimensions are in mm.

[15]

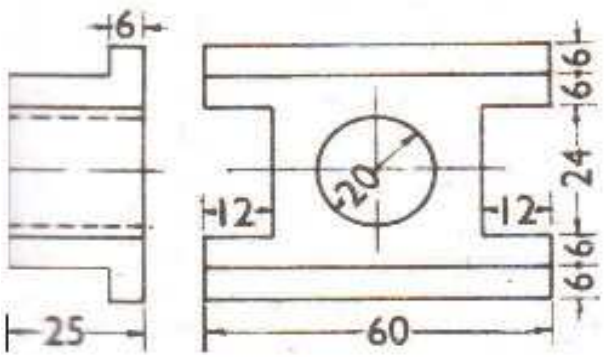

Fig. 1

8. Pictorial view of an object is shown in Fig. 2. Draw, to the scale of full size, the following views. All dimensions are in mm.
   (i) Front view
   (ii) Top view

[15]

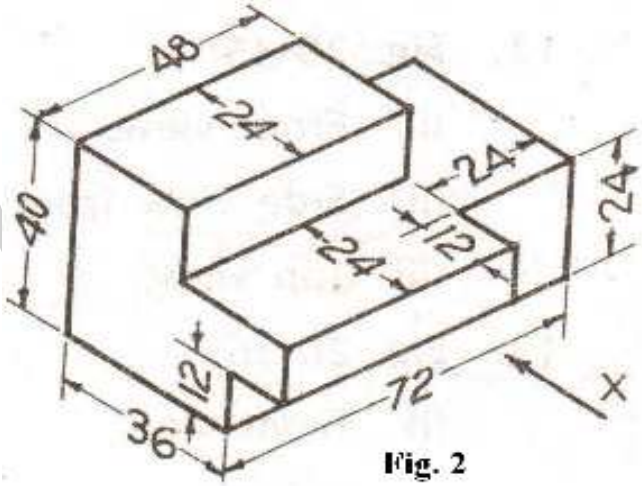

Fig. 2

Subject Code: R10205/R10 **Set No - 4**

I B.Tech II Semester Regular Examinations Oct./Nov. - 2013

ENGINEERING DRAWING

(Common to BME, CE, ME, CHEM, AE, AME, PT branches)

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

Answer any FIVE Questions
All Questions carry equal marks

* * * * *

1. Inscribe an ellipse in a parallelogram having sides 150 mm and 100 mm long and an included angle of 120^o.

[15]

2. (a) A 100 mm long line is parallel to and 40 mm in front of the vertical plane. Its two ends are 20 mm and 60 mm above the horizontal plane respectively. Draw its projections and find its inclination with the horizontal plane.
   (b) The front view of line, inclined at 30^0 to the vertical plane, is 60 mm long. The line is parallel to and 30 mm below the horizontal plane. Its nearer end is 40 mm in front of the vertical plane. Draw the projections of the line.

[8+7]

3. A line AB, 80 mm long is in the second quadrant with the end A in the horizontal plane and the end B in the vertical plane. The line is inclined at 30^0 to the horizontal plane and at 45^0 to the vertical plane. Draw the projections of AB.

[15]

4. Draw the projections of a circle of 90 mm diameter having the end A of the diameter AB in the horizontal plane, the end B in the vertical plane and the surface inclined at 30^0 to the horizontal plane and 60^0 to the vertical plane.

[15]

5. Draw the projections of a pentagonal prism, base 25 mm side and axis 70 mm long, resting on an edge of its base on the ground with rectangular face containing the edge being perpendicular to the vertical plane. Its axis is inclined at 30^0 to the ground and parallel to the vertical plane.

[15]

6. Draw the three views of a cone, base 40 mm diameter and axis 70 mm long, having one of its generators in the vertical plane and inclined at 30^0 to the horizontal plane, the apex being in the horizontal plane.

[15]

Subject Code: R10205/R10

Set No - 4

7. Projections of a casting are given in Fig. 1. Draw the isometric view of the casting. All dimensions are in mm.

[15]

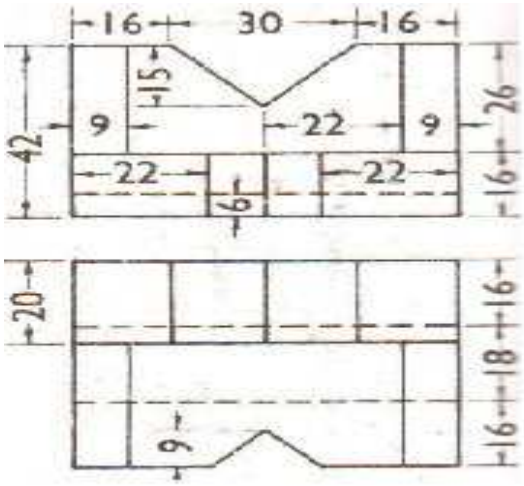

Fig. 1

8. Pictorial view of an object is shown in Fig. 2. Draw, to the scale of full size, the following views. All dimensions are in mm.
   (i) Front view
   (ii) Top view

[15]

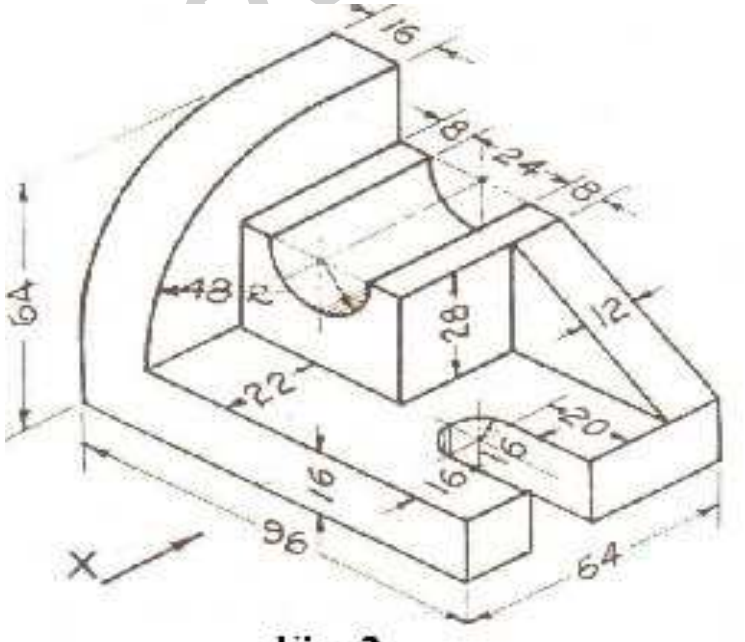

Fig. 2