Scheme - G

Sample Test Paper - I

Course Name : Mechanical Engineering Group

Course code   : AE/CH/FE/ME/MH/MI/PG/PT/PS

Semester   : Second

Subject Title : Engineering Drawing

Marks   : 25   **Time:1 Hour 15 Minutes**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

Q.1) Figure 1 shows a pictorial view of an object. Draw: **16 Marks**

   (a) Sectional elevation along section A-A   (8)

   (b) Plan   (6)

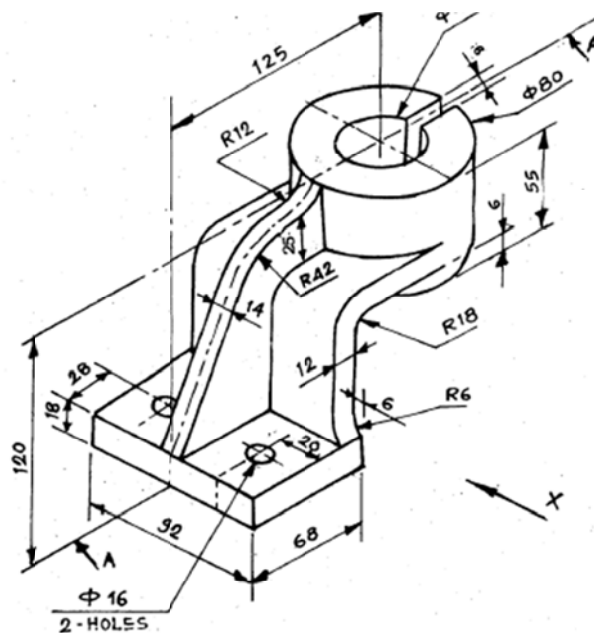   (c) Dimension the Figure   (2)

   Use first angle method of projections.

Figure 1

OR

Q.1) Figure 2 shows two views of an object.   **16 Marks**
Draw --
      (a) Front View -----   (2)
      (b) Top View ------   (2)
      (c) Left Hand Side View.----   (10)
      (d) Dimension the views----   (2)
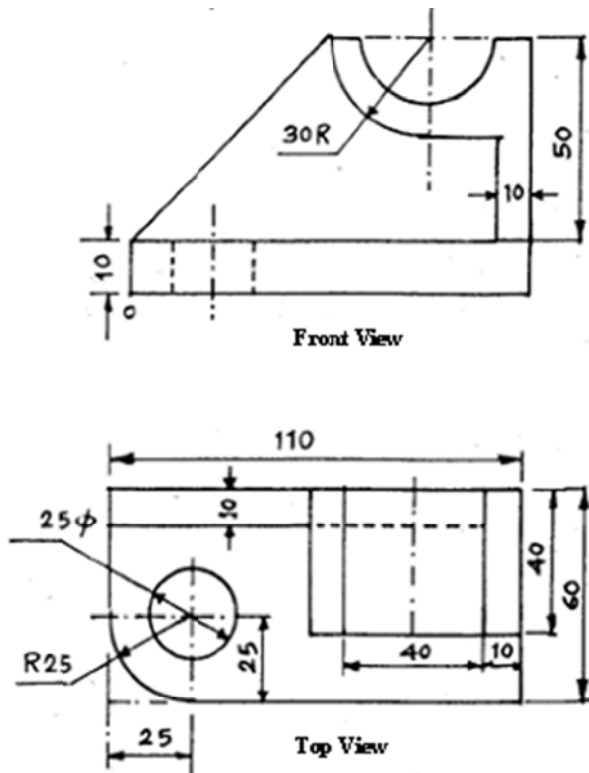

Front View

Top View

Fig. 2

Q.2) The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the horizontal plane and 12 mm in front of V.P. Draw the projections of AB and determine its inclination with the H.P. and the V.P.
                                                             09 Marks

OR

Q.2) A circular plate of negligible thickness and 50 mm diameter appears as an ellipse in the top view, having its major axis 50 mm long and minor axis 30 mm long. Draw its front view when the major axis of the ellipse is horizontal.   **09 Marks**

Sample Test Paper - II

Course Name : **Mechanical Engineering Group**

Course code   : **AE/CH/FE/ME/MH/MI/PG/PT/PS**

17205

Semester   : **Second**

Subject Title : **Engineering Drawing**

Marks   : **25**   Time: **1 Hrs. 15 Min**

Instructions:

1. All questions are compulsory.

2. Illustrate your answers with neat sketches wherever necessary.

3. Figures to the right indicate full marks.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

Q.1) A square pyramid having side of base 30 mm and axis height 70 mm is resting on its side of base on HP such that its axis is inclined at 45° to HP and parallel to VP. Draw its elevation and plan.   **08 Marks**

OR

Q.1) A pentagonal prism having side of base 40 mm and axis height 60 mm is resting on a rectangular face on HP with its axis perpendicular to VP. It is cut by a section plane inclined at 30^0 to VP and perpendicular to HP bisecting the axis. Draw**:**

    (i) Plan   **02 Marks**

    (ii) Sectional front view   **04 Marks**

    (ii) True shape of section.   **02 Marks**

Q.2) A vertical cylinder of base diameter 55 mm and height 70 mm is resting on H.P. on its circular base. It is cut by a cutting plane perpendicular to V.P. and inclined at 30° to H.P. The inclined plane cut the axis of cylinder at a distance 30 mm from base. Draw the two views of cylinder and develop the lateral surface of the bottom part of the cut cylinder.   **08 Marks**

Q.3) Draw the free hand sketches of any three of the following   **09 Marks**

    a) Castle Nut.

    b) Lewis foundation Bolt.

    c) Whitworth Thread profile.

    d) Gib Head key.

Sample Question Paper

Course Name : Mechanical Engineering Group

Course code   : AE/CH/FE/ME/MH/MI/PG/PT/PS

Semester   : Second

)5

Subject Title : Engineering Drawing

Marks   : 100   **Time: 4 Hrs.**

Instructions:

1. All questions are compulsory

2. Figures to the right indicate full marks

3. Assume suitable data if necessary

4. Use only H / 2H grade pencils.

5. Line work and cleanliness will be given due weightage.

6. Retain all construction lines and nomenclature.

Q.1 a) A pictorial view of an object is as shown in Figure 1. Draw the following views:
   i) Sectional front view, section along A-B   05 Marks
   ii) Plan   05 Marks
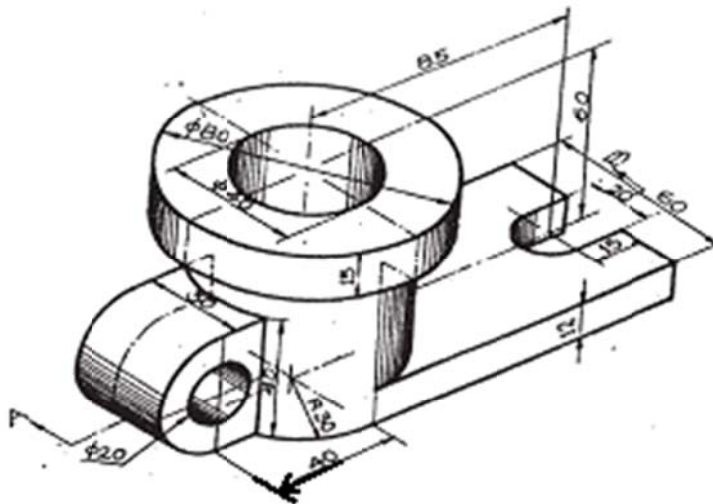   Use first angle method of projection.

  b) Figure 2 shows R.H. side view and Front view of an object. Draw the following views
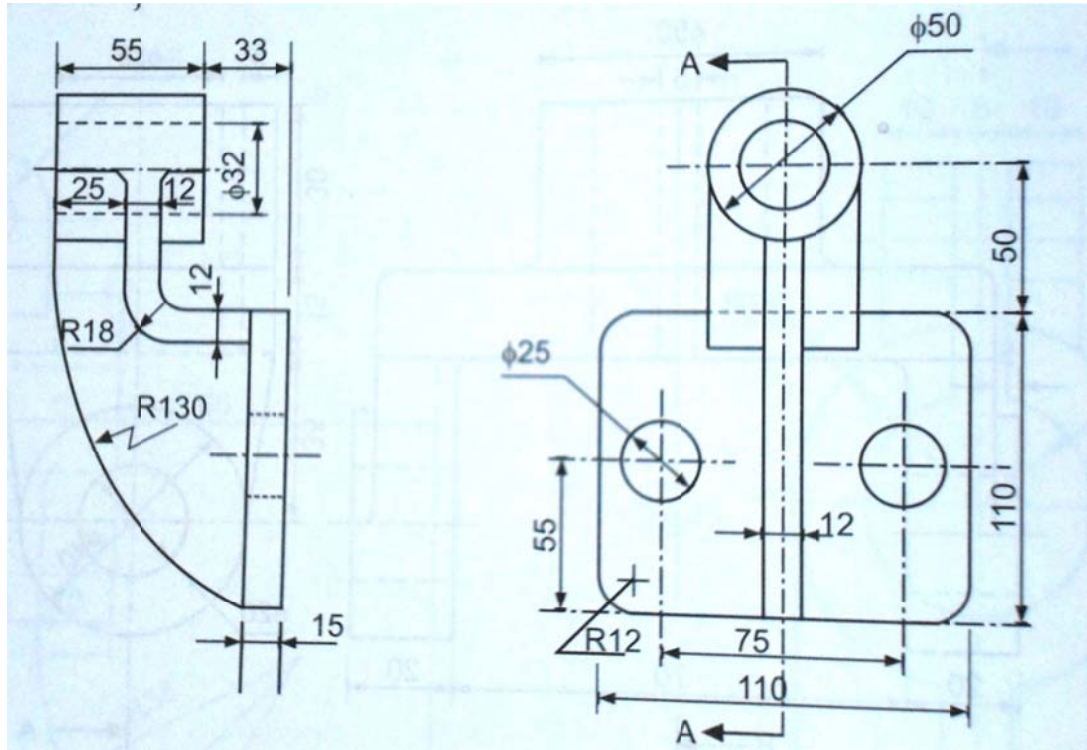   of the object. Use first angle method of projection.
   i) Front View   02 Marks
   ii) Top View   04 Marks
   iii)Sectional Right Hand Side View. Section A-A   04 Marks

Fig-1

| R.H.S.V. | Fig-2 | F.V. |

Q.2 a) The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end Ais in the H.P. and 12 mm in front of the V.P. Draw the projections of AB and determine its inclination with the H.P. and V.P.   **08 Marks.**

Q.2 b) Solve any ONE.   **08 Marks**
   i)   A pentagonal lamina side 30 mm, has one side in H.P. Lamina is inclined at   60 $^\circ$ to H.P. and perpendicular to V.P. Draw three views.

   ii) A square plate of side 60 mm has a central hole of 36 mm diameter. It is resting on one of its sides in H.P. with its surfaces perpendicular to V.P. and inclined at 45 $^\circ$ to H.P. Draw its projections.

Q.3 Solve any TWO.   **16 Marks**
   a) A cylinder, 60 mm base diameter and 70 mm length of axis is lying on its curved surface on H.P. Draw the projections of it when the axis is inclined at 30 $^\circ$ with V.P. and parallel to H.P.

   b) A cone 70 mm base diameter and 80 mm length of axis has its base parallel to V.P. and axis parallel to H.P. Draw the projections when axis makes an angle of 45 $^\circ$ with V.P.

c) Draw the projection of a pentagonal prism on auxiliary plane, base 25 mm side and axis 50 mm long, resting on one of its rectangular face on H.P. with axis inclined at 45 ° to V.P.

**Q.4 Solve any TWO.**   **16 Marks**

a) A right circular cone of 50 mm base diameter and axis 80mm long is resting on its base on H.P. It is cut by a section plane inclined at 60^0 to H.P. and perpendicular to V.P. bisecting the axis. Draw
    1) Front view   02 Marks
    2) Sectional top view   04 Marks
    3) True shape of section   02 Marks

b) A square pyramid of base 25 mm side and axis 60 mm long is resting on H.P. on its base with edges equally inclined to V.P. It is cut by a section plane on axis at 20 mm from the apex and inclined at 45° to H.P. Draw:

    1) Front view   04 Marks
    2) Sectional top view   02 Marks
    3) True shape of section   02 Marks

c) A right circular cylinder of base diameter 50 mm and axis 80 mm long is lying on H.P. on a generator with its axis parallel to V.P. It is cut by a section plane normal to H.P. and inclined at 30° to V.P. which passes through the midpoint of the axis. Draw:

    1) Sectional front view   04 Marks
    2) Top view   02 Marks
    3) True shape of the section   02 Marks

**Q.5 Solve any TWO.**   **16 Marks**
a) A cone resting on H.P. is having diameter of base 45 mm and height 60 mm. It is cut by a vertical plane perpendicular to V.P. and 10 mm away from the axis of cone. Draw the development of lateral surface of the truncated cone.

b) Draw the development of lateral surface of the bottom part of the pentagonal prism of side 25 mm and axis 45 mm cut by the plane A-A as shown in the Figure 3.
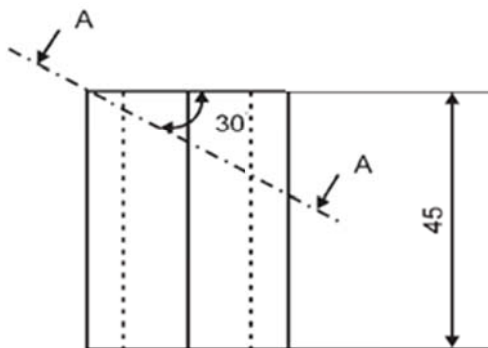
Fig-3

c) Draw the development of the surface of the sheet metal tray shown in Figure 4.

Front View

T.V.
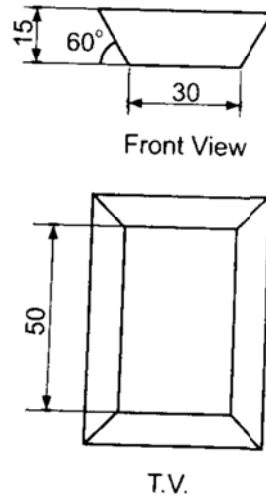
Fig-4

Q.6 Draw the neat and proportionate free hand sketches of an ANY FOUR out of the following: **16 Marks**

   (i)   Unified threads
   (ii)   Eye foundation bolt
   (iii) Hexagonal headed bolt
   (iv) Collar stud
   (v)   Single rivetted lap joint
   (vi) Locking by pin