



F.E. (Semester – I) Examination, 2011
ENGINEERING GRAPHICS – I
(2008 Pattern)

Time : 4 Hours

Max. Marks : 100

- Instructions :**
- 1) Answer **one** question of **each** Unit. Answer **three** questions from Section – **I** and answer **three** questions from Section – **II**.
 - 2) Answer of **two** Sections should be drawn on **two separate** drawing sheets.
 - 3) Retain **all** Construction Lines.
 - 4) Use of log-table, electronic pocket calculator is **allowed**.
 - 5) Figures in the **bracket** on the **right** sides indicate **full** marks.
 - 6) Assume suitable proportionate dimensions / data, if **necessary**.
 - 7) Use only half imperial size drawing papers as answer sheets.

SECTION – I

Unit – I

Engineering Curves

1. a) Two Points 'A' and 'B' are 100 mm apart. Point 'C' is 75 mm from 'A' and 60 mm from 'B'. Draw an ellipse passing through 'A', 'B', and 'C'. Also draw Normal and Tangent at a point 30 mm from Major axis. (8)
1. b) A wheel of 60 mm diameter rolls along a straight horizontal road without slipping. Draw the curve traced out by a point 'P' on the circumference of wheel, for one complete revolution of the wheel. Initially point 'P' is farthest from the road. Name the curve. (7)

OR

2. a) A Fountain jet discharges water from the ground level at an inclination of 45° to the ground. The jet travels a horizontal distance of 250 m. from the point of discharge and falls on the ground. Trace the path of the jet. Name the curve. Also find Direction of jet at 200 m. horizontal distance from the discharge point of Jet. (8)
2. b) A circular disc of diameter 'AB' 80 mm rotates about its midpoint 'O', with a uniform angular velocity. The point 'P' which is at 'A' moves with uniform linear velocity and reaches the point 'B', when the disc completes one revolution. Draw the point traced out by point 'P'. (7)

P.T.O.



Unit – II

Orthographic Projections

3. For the object shown in figure no. 1, draw the following views, using first angle projection method.

a) Sectional Front view in the direction of arrow X. (Section along A-A). (7)

b) Top view. (5)

c) Right Hand Side view. (5)

Give all Dimensions. (3)

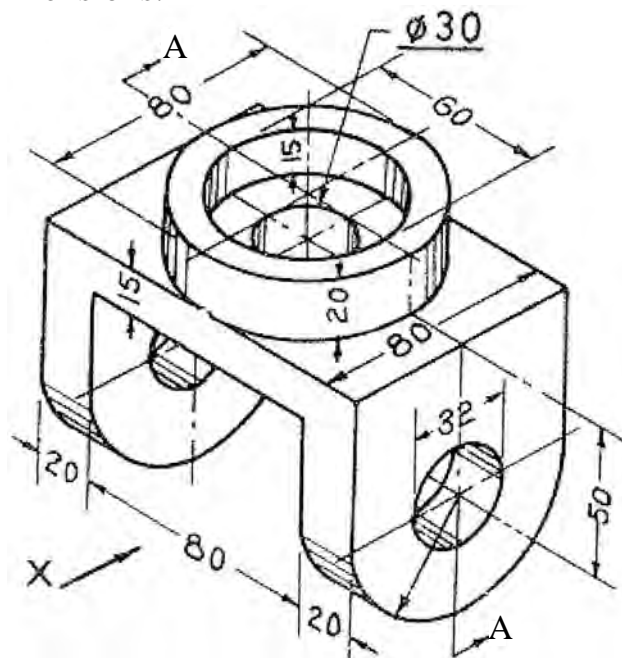


Fig. 1

OR

4. For the object shown in figure no. 2, draw the following views, using first angle projection method.

a) Front view in the direction of arrow X. (5)

b) Top view. (5)

c) Sectional Left Hand Side view. (Section along A-A). (7)

Give all Dimensions. (3)

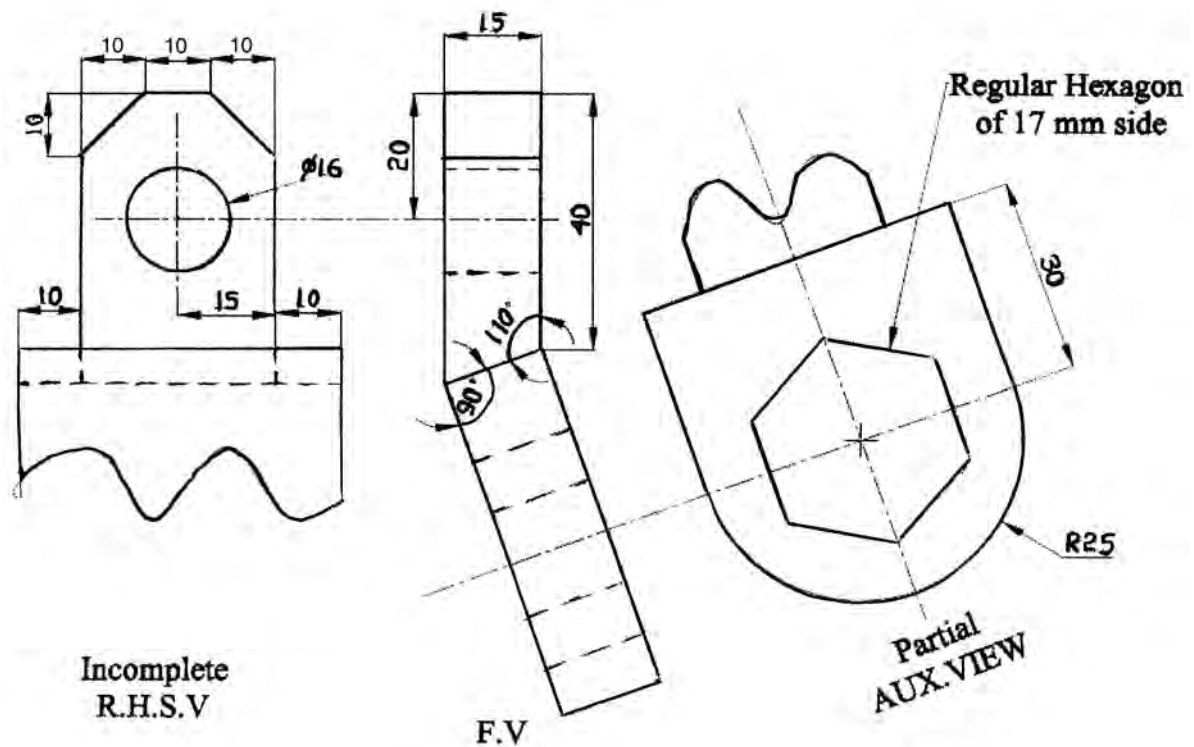


Fig. 3

OR

6. Figure 4 shows Front view and Left hand side view using first angle projection method.

- Redraw the given views. (5)
- Draw the Auxiliary view of the object from the direction X. (8)
- Give all Dimensions. (2)

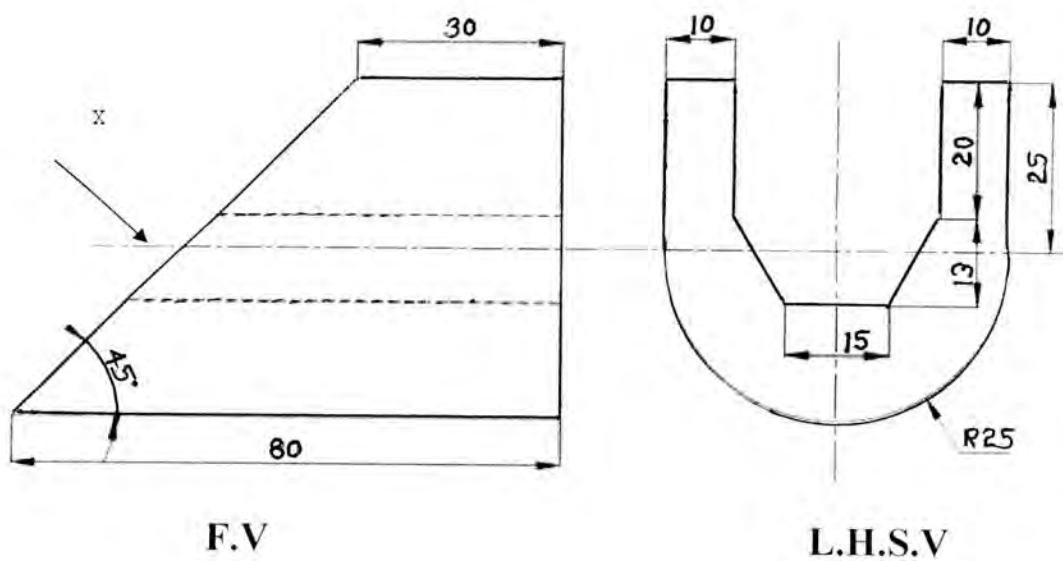


Fig. 4



SECTION – II

Unit – IV

Isometric Projections

7. Figure 5, shows orthographic views of an object by first angle projection method.

Draw its Isometric View taking 'O' as origin and give only major dimensions.

(17+3)

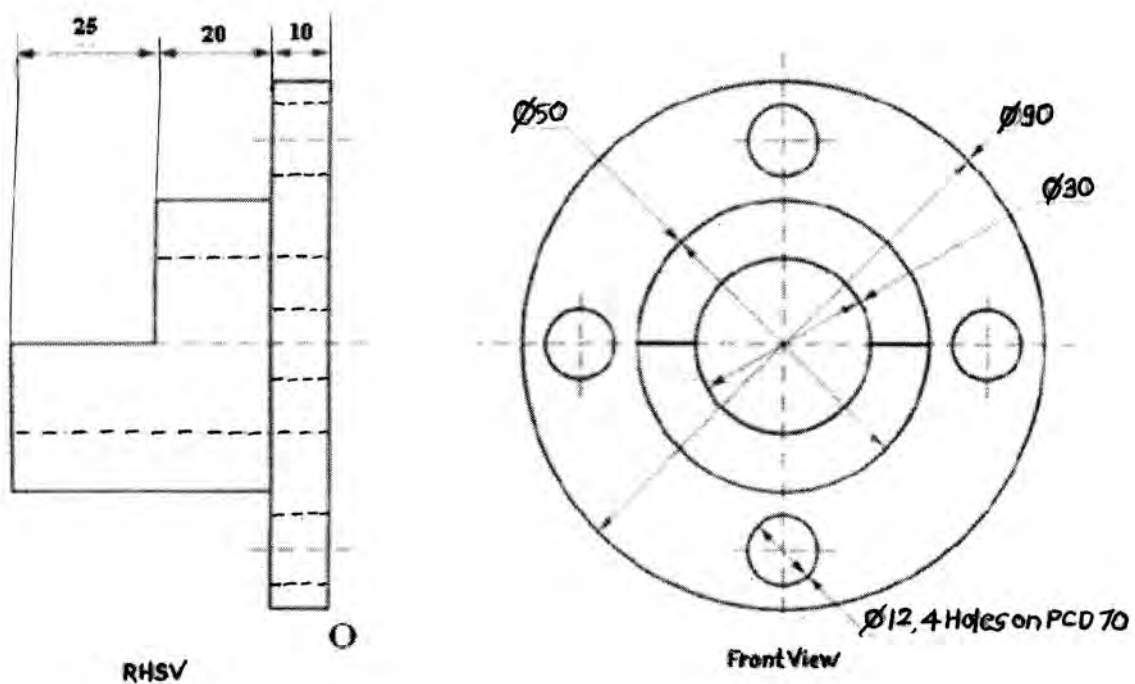


Fig. 5

OR



8. Figure No. 6, shows orthographic views of an object by first angle projection method.

Taking 'O' as origin draw its isometric view, give only major dimensions. (17+3)

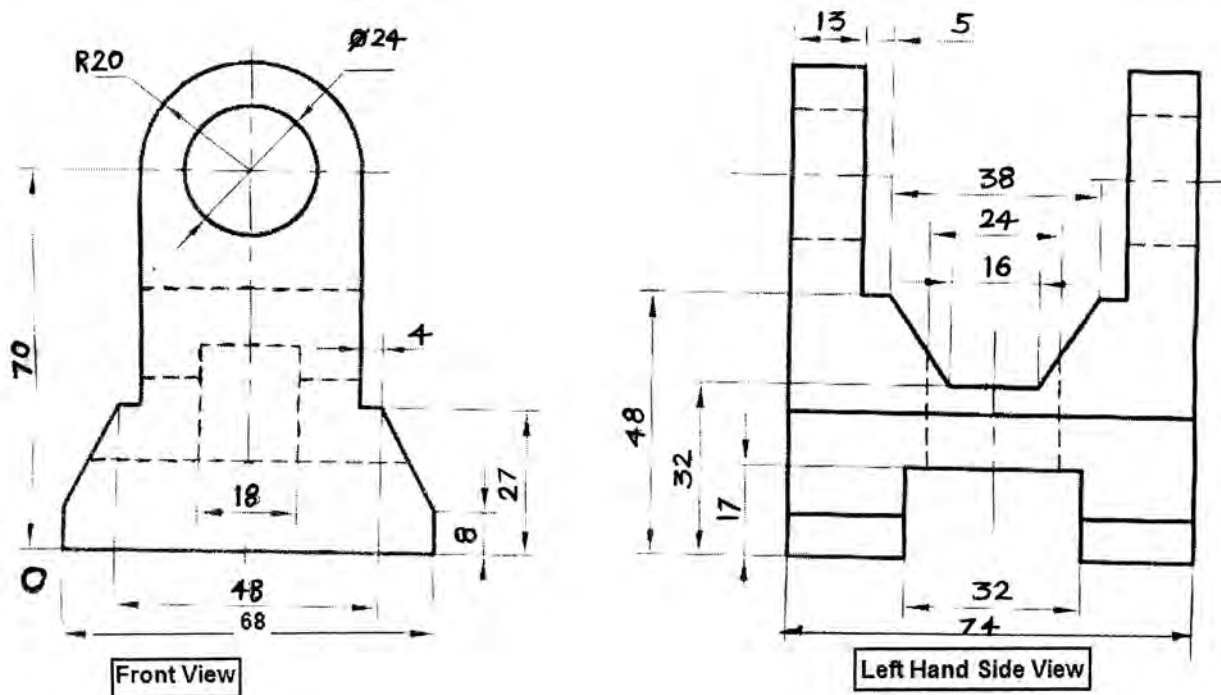


Fig. 6

Unit – V

Missing Views

9. Front view and top view of an object is as shown in figure no. 7. Using first angle method of projection, draw the followings.

a) Sectional elevation (cutting plane A-A). (6)

b) Plan. (3)

c) Left hand side view. (9)

Give all dimensions. (2)

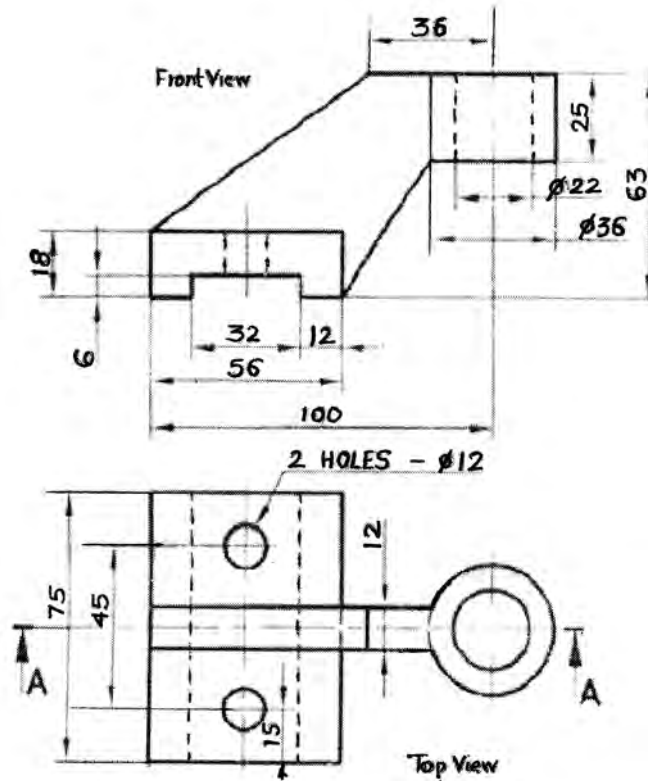


Fig. 7

OR

10. Front view and top view of an object is as shown in figure no. 8. Using first angle method of projection, draw the followings.

a) Sectional elevation (cutting plane A-A). (6)

b) Plan. (3)

c) Left hand side view. (9)

Give all dimensions. (2)

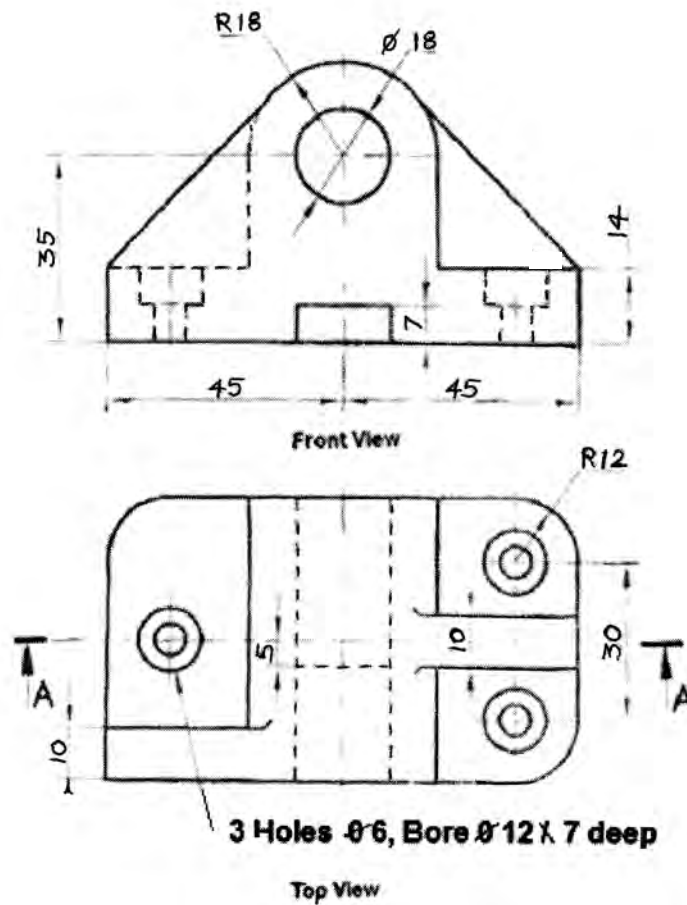


Fig. 8

Unit – VI

Free Hand Sketches

11. Draw proportionate free hand sketches of the followings.

- a) Eye foundation bolt. (4)
- b) Universal coupling. (3)
- c) Hexagonal nut. (3)

OR

12. Draw proportionate free hand sketches of the followings.

- a) Saddle key (Hollow and flat). (4)
- b) Semi-elliptical leaf spring. (3)
- c) Square thread. (3)