[3961] – 106

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

Time : 4 Hours | Max. Marks : 100

Instructions : *i) Answer **one** question from **each** Unit. Answer **three** questions from Section **I** and **three** questions from Section **II**.*
*ii) Answer to the **two** Sections should be drawn on **separate** drawing sheets.*
*iii) Figures in bracket indicate **full** marks.*
*iv) Retain **all** construction lines.*
*v) Use of electronic pocket calculator is **allowed**.*
*vi) Assume suitable data, dimension, if **necessary**.*

SECTION – I

UNIT-II : ENGINEERING CURVES

1. A) The major axis of an ellipse is 130 mm and the minor axis 80 mm long. Find foci and draw the ellipse by 'arc of circle method'. Draw a tangent to the ellipse at a point 25 mm above the major axis. **7**

   B) Rod OC, 70 mm long is rotating uniformly about O. During the time rod completes one and half revolution; point P starts from C moves along the rod uniformly upto O and reaches back to point P. Give the name of the curve. **8**

OR

2. A) The vertex of hyperbola is 65 mm from its focus. Draw the curve if the eccentricity is 3/2. Draw a normal and tangent at a point on the curve 70 mm from the directrix. **8**

   B) Show by means of a drawing that if the diameter of the directing circle is twice that of the generating circle, the hypocycloid is a straight line. Consider the diameter of the generating circle equal to 80 mm. **7**

P.T.O.

UNIT-III : ORTHOGRAPHIC PROJECTIONS

3. A pictorial view of a machine part is shown in the fig. 1, draw the following views, using First Angle Method of Projection :

   a) Elevation in the direction of arrow 'X'. **6**

   b) Plan. **5**

   c) Sectional End View from Left Hand Side (section along R-S). **6**

   d) Give all dimensions. **3**

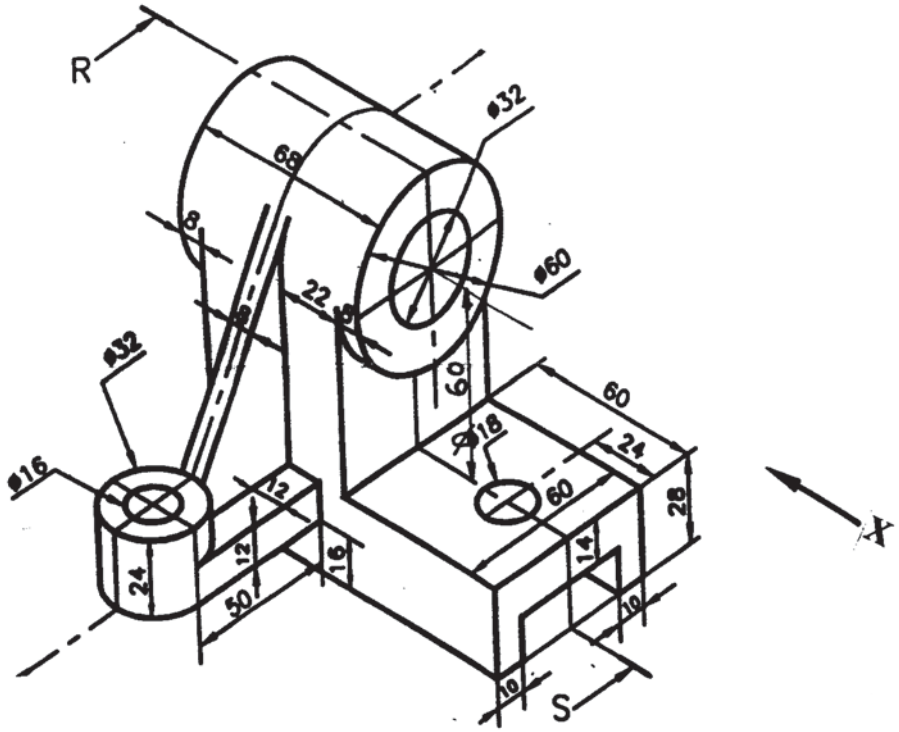


Fig. 1

OR

4. For object shown in the fig. 2, draw the following views :

   a) Sectional elevation in the direction of arrow 'X' (section along A-B). **6**

   b) Plan. **5**

   c) Right Hand Side View. **6**

   d) Give all dimensions. **3**

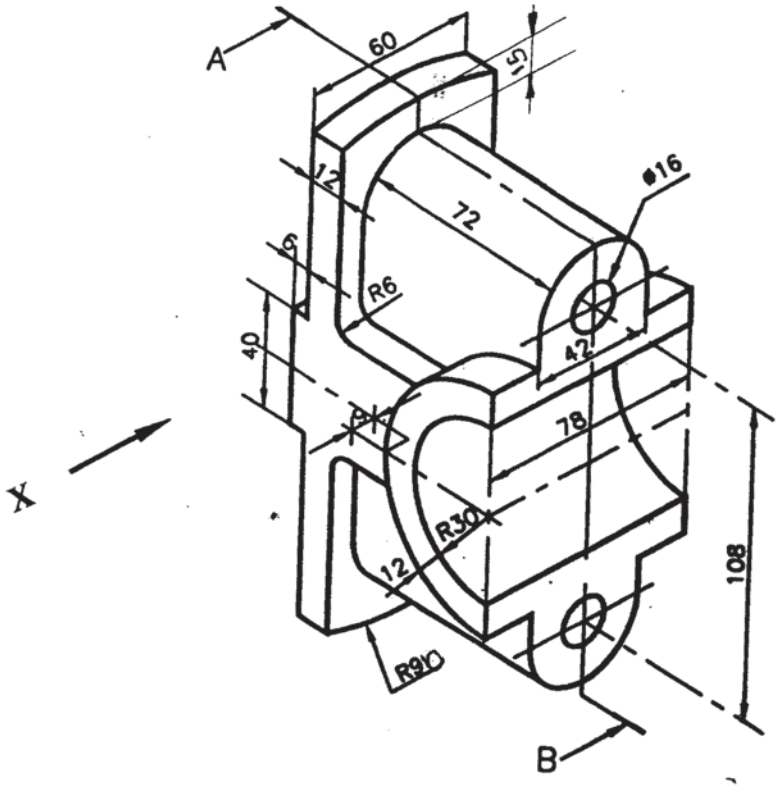


Fig. 2

UNIT-IV : AUXILIARY PROJECTIONS

5. Fig. 3 shows Incomplete Front View, Top View and Auxiliary View of an object :

   a) Redraw the given views **5**

   b) Complete the Front View **8**

c) Show all dimensions. **2**

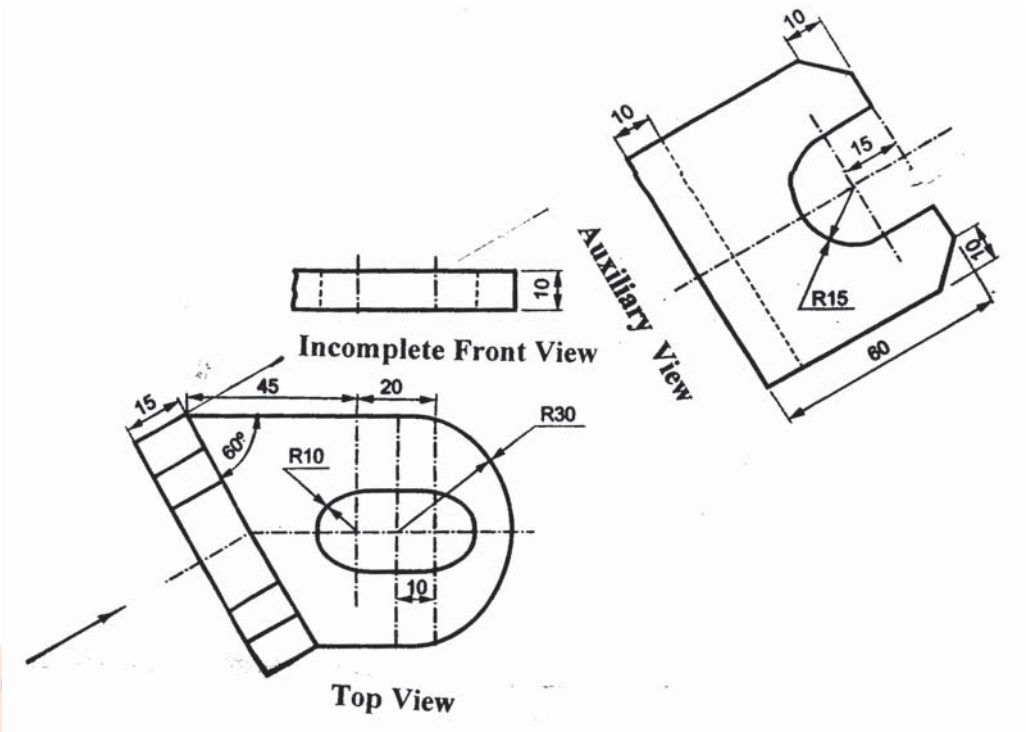


Fig. 3

OR

6. Fig. 4 shows Front view, Auxiliary Top View of an object.
   a) Redraw the given views. **5**
   b) Add Top View. **8**
   c) Give all dimensions. **2**

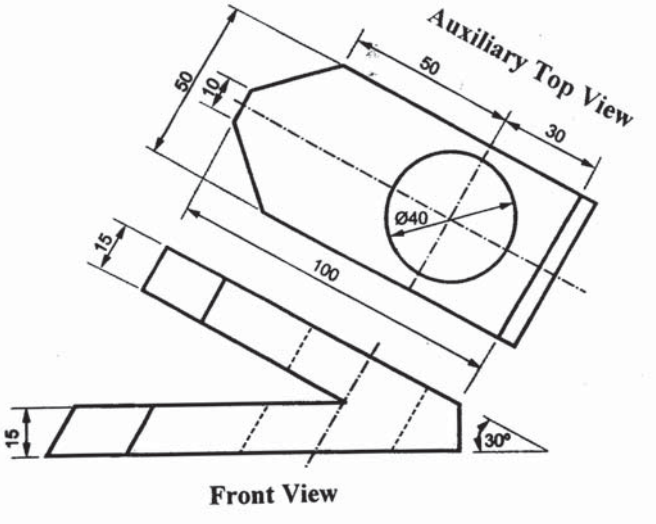
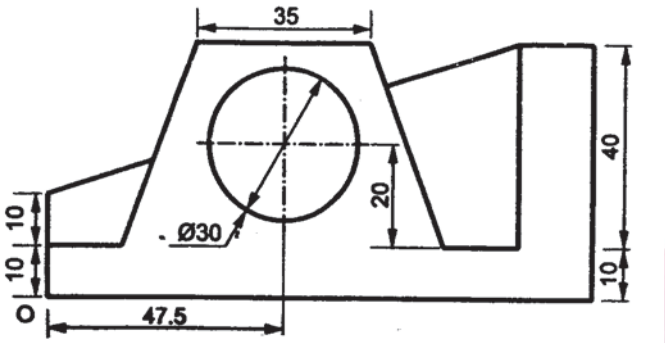


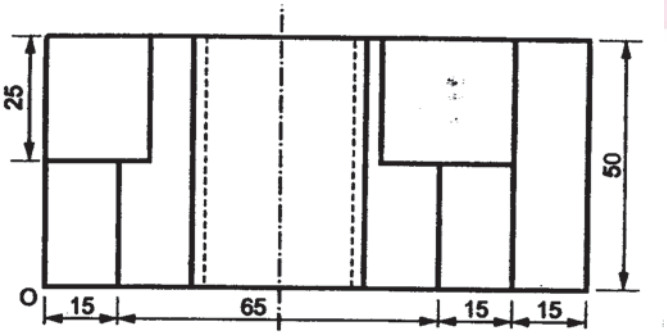
Fig. 4

SECTION – II
UNIT-V : ISOMETRIC

7. Fig. 5 shows F.V. and T.V. of an object by First Angle Method of Projection. Draw its isometric view taking origin at 'O' and give overall dimensions. **(17+3)**



Front View



Top View

Fig. 5

OR

8. Fig. 6 shows Orthographic Views of an object by First Angle Method of Projection. Draw its isometric view taking origin at 'O' and give overall dimensions. **(17+3)**

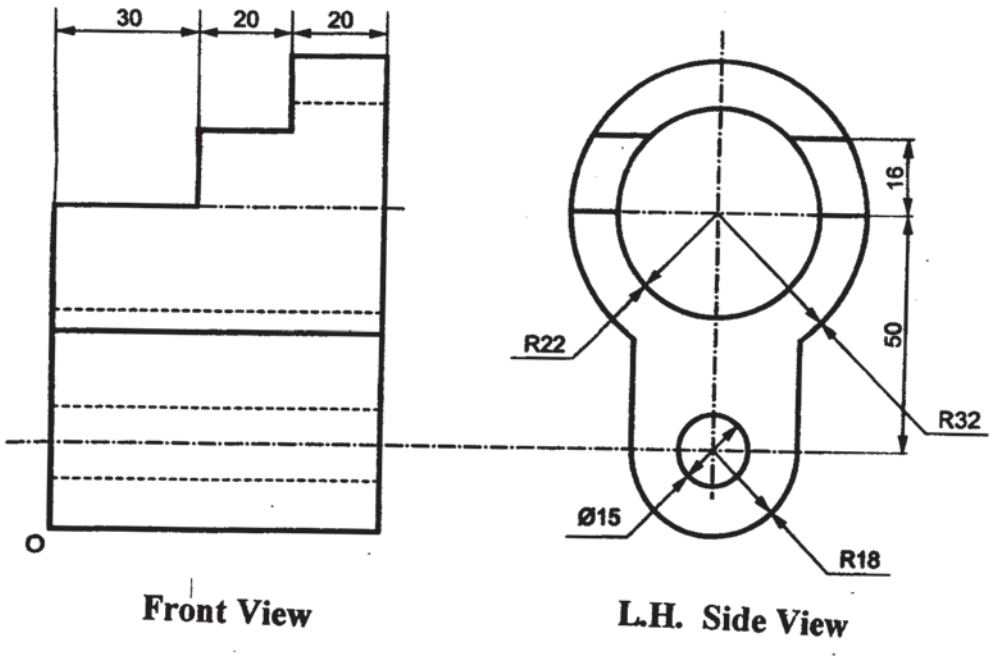


Fig. 6

UNIT-VI : MISSING VIEWS

9. Fig. 7 shows Front View and L.H. Side View of an object. Draw the following views :

a) Sectional Front View (section along A-A). **7**

b) L.H. Side View. **3**

c) Top View. **8**

d) Give all dimensions. **2**

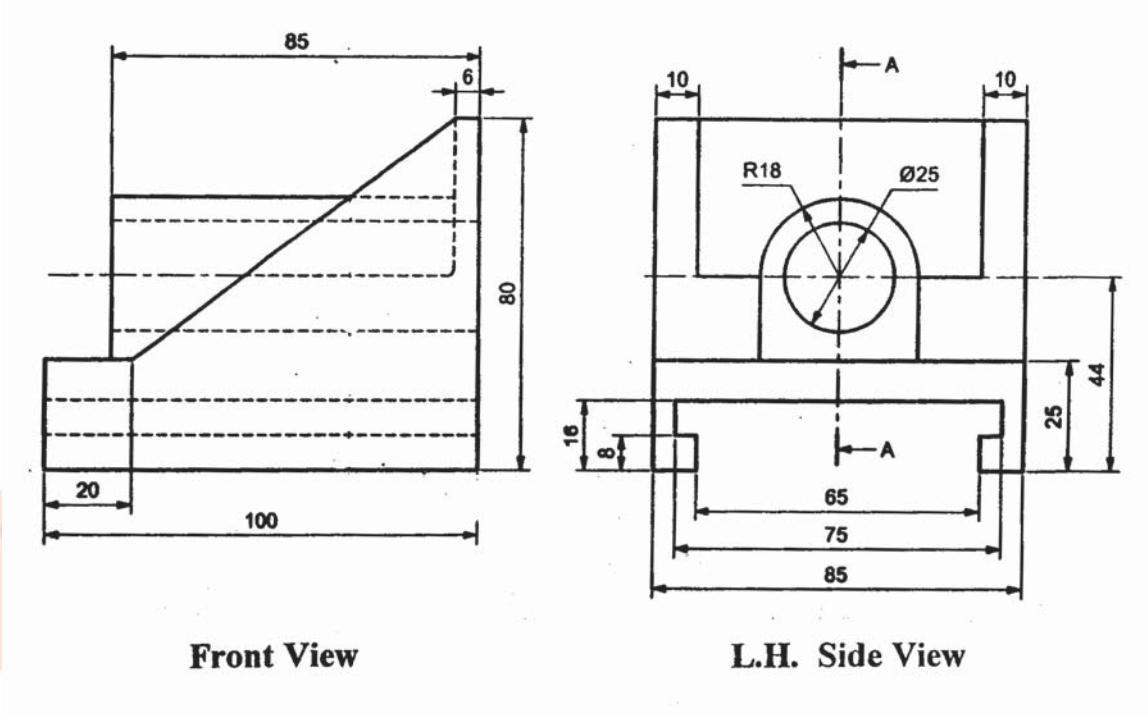


Fig. 7

OR

10. Fig. 8 shows the Front View and L.H. Side View of a machine part. Draw the following views by First Angle Method of Projection :

a) Redraw the Front View. **3**

b) Sectional L.H. Side View (Section along A-A). **7**

c) Top view. **8**

d) Give all dimensions. **2**

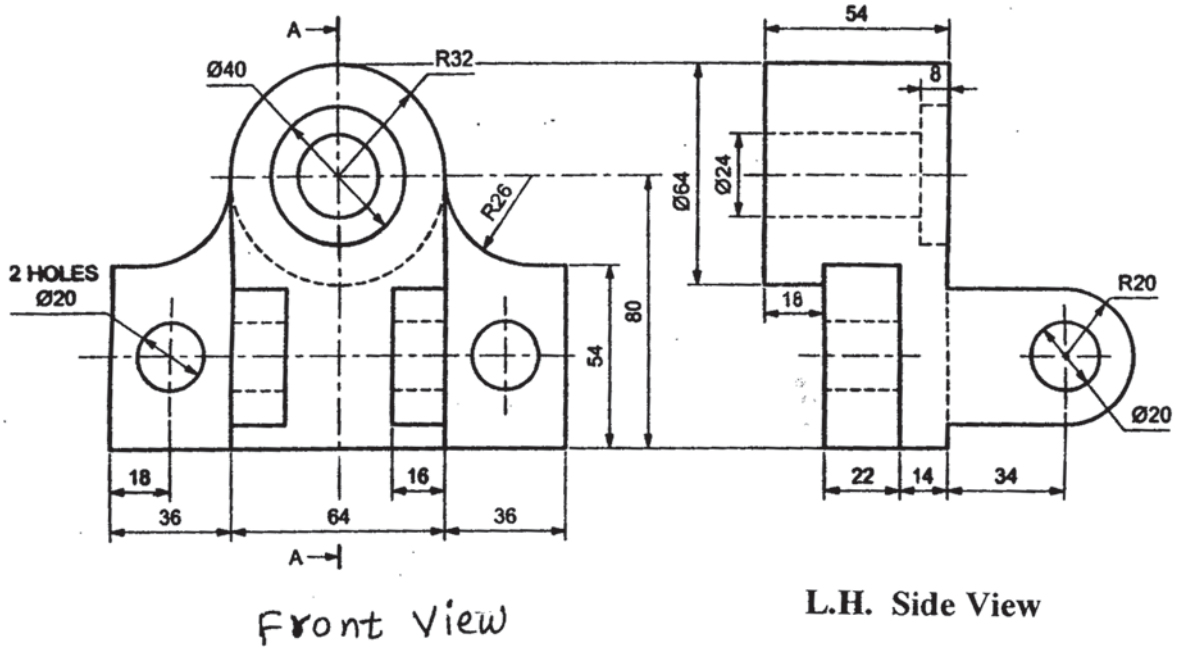


Fig. 8

UNIT-VII : FREE HAND SKETCHES

11. Draw proportionate free hand sketches of the following :
    a) Whitworth threads (BSW). **3**
    b) Split Muff Coupling. **3**
    c) Lewis Foundation Bolt. **4**

OR

12. Draw proportionate free hand sketches of the following :
    a) Eye bolt. **3**
    b) Gib headed key (assembled position in shaft and hub). **3**
    c) Fillet weld and Single 'V' butt weld. **4**

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