



[4656] – 16

Seat No.	
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F.E. (Semester – I) Examination, 2014
ENGINEERING GRAPHICS – I
(Old) (2008 Course)

Time : 4 Hours

Max. Marks : 100

- Instructions :** 1) Answer **one** question of **each** Unit. Answer **three** questions from Section – I and **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) Draw a parabola by rectangle method having abscissa of 30 mm and the double ordinate is 70 mm. 7
b) Draw a hypocycloid where the diameters of rolling and directing circles are equal to 40 mm and 160 mm respectively. Draw a normal and a tangent to curve at convenient point. 8
- OR
2. a) Draw the Archimedean Spiral of $1\frac{1}{2}$ convolutions with the greatest radius of 120 mm and the smallest radius of 30 mm. Draw the tangent and normal to the curve at a point 75 mm from the pole. 8
b) A point 'P' moves around the cone of 60 mm diameter and 70 mm height. Initially the point 'P' is on the periphery of base of the cone and travels a vertical distance of 45 mm in one revolution around the cone. Draw the path traced by point if its axial movement is uniform with its angular motion. 7



Unit – II

(Orthographic Projections)

3. For the object shown in Figure No. 1, draw the following views, using first angle projection method :
- a) Section elevation in the direction of 'X' , along A – A.
 - b) Plan
 - c) End view from Left Hand Side
 - d) Given all dimensions.

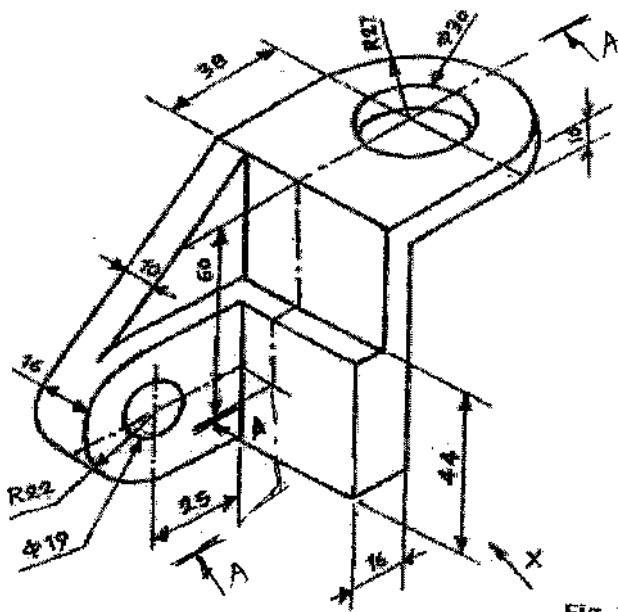


Fig. 1

OR



4. For the object shown in Figure No. 2, draw the following views, using first angle projection method :
- a) Section elevation in the direction of 'X' (Section along AA) 6
 - b) Plan 6
 - c) End view from Right Hand Side 6
 - d) Given all dimensions. 2

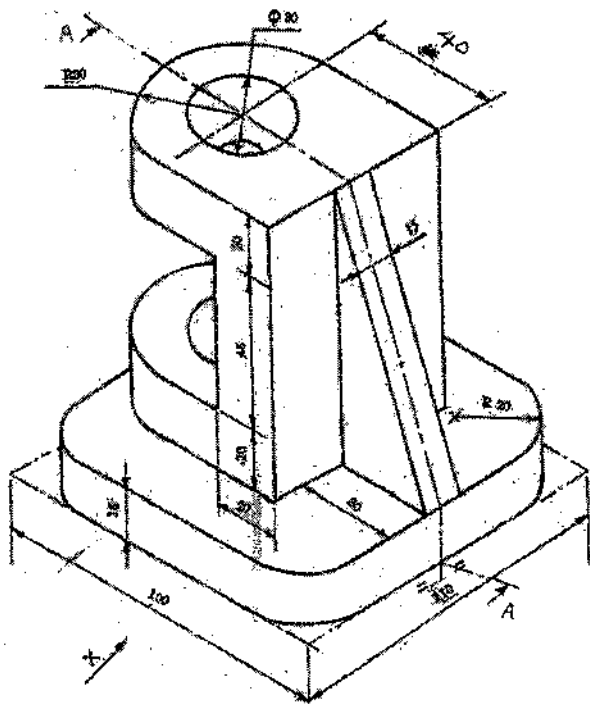


Fig. 2

Unit – III
(Auxiliary Projections)

5. Fig. 3 shows elevation and auxiliary views of a bracket. By using First Angle Method of Projections :
- a) Redraw the given views 5
 - b) Add the plan 8



c) Give all dimensions.

2

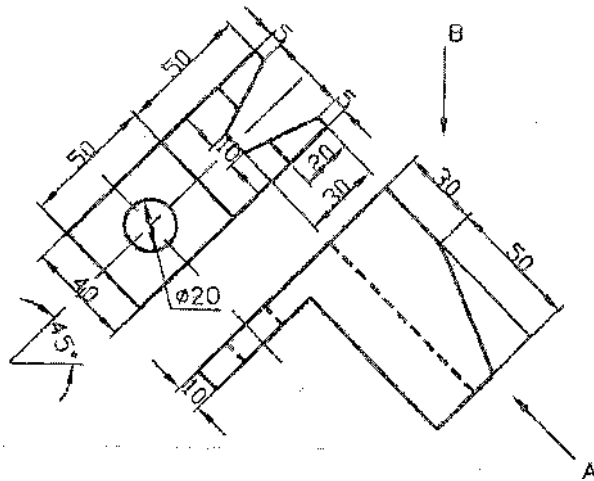


Fig. 3

OR

6. Fig. 4 shows partial front view, top view and auxiliary view of an object. By using First Angle Method of Projections :
- Redraw the given views
 - Complete front view
 - Give all dimensions.

5

8

2

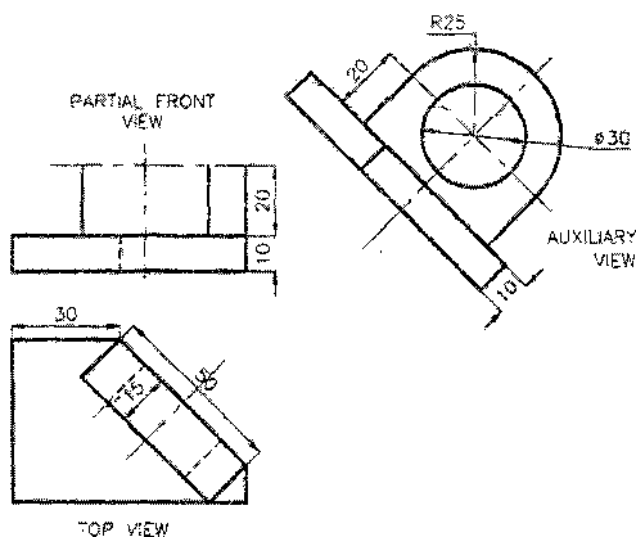


Fig. 4

SECTION – II

Unit – IV

(Isometric)

7. The Figure 5 shows FV and TV of a machine part. Draw its isometric view by using natural scale and show overall dimensions.

20

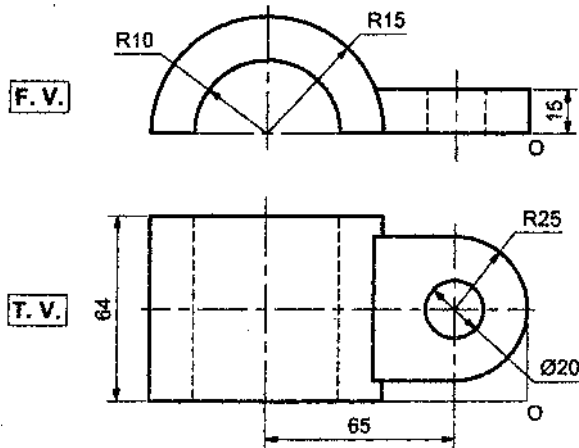


Fig. 5

OR

8. The Figure 6 shows FV and Plan of a machine part. Draw its isometric projections by using isometric scale.

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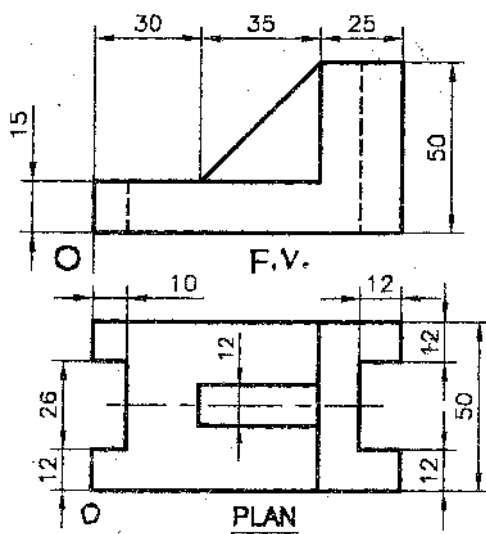


Fig. 6



Unit – V
(Missing Views)

9. The Figure 7 shows FV and TV of a machine part. Draw

- | | |
|--|---|
| A) Sectional Front View, along Section A – A | 7 |
| B) Top View | 3 |
| C) Right Side View | 7 |
| D) Dimensioning. | 3 |

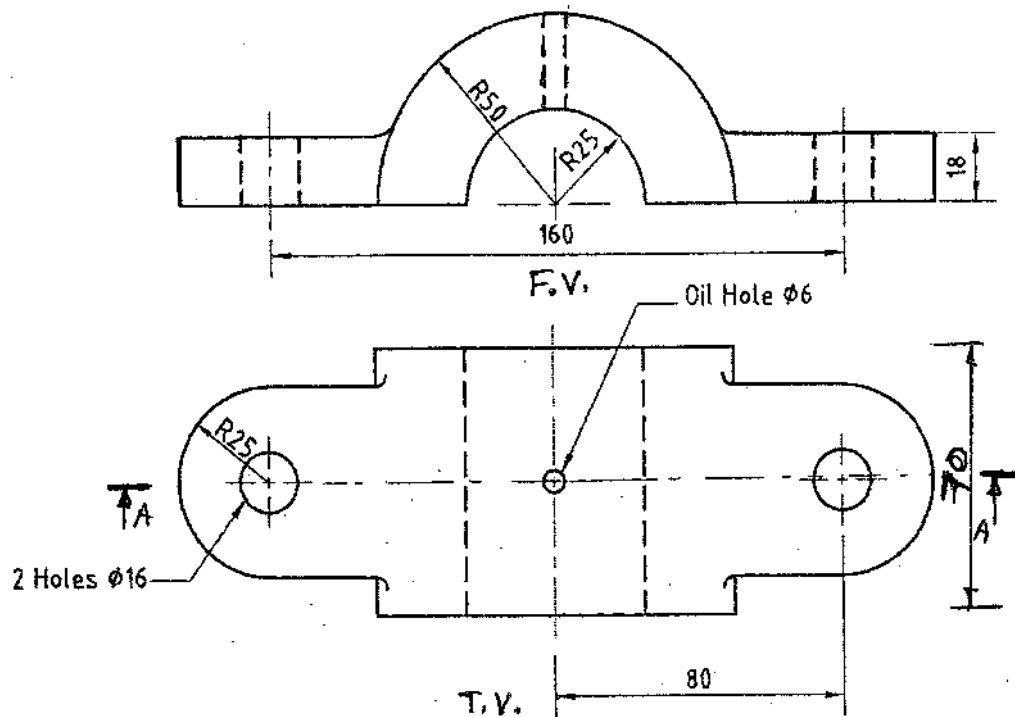


Fig. 7

OR

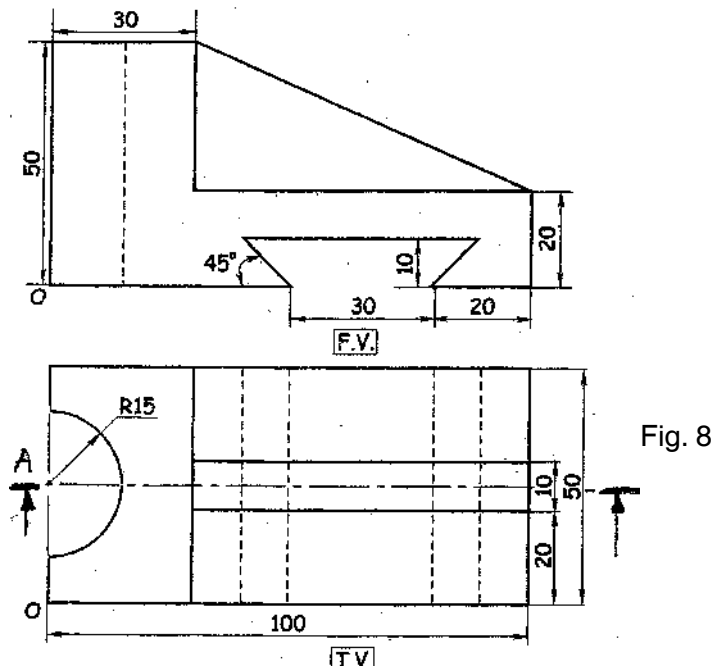
10. The Figure 8 shows FV and TV of a machine part, Draw

- | | |
|--|---|
| A) Sectional Front View, along Section A – A | 7 |
| B) Top View | 3 |
| C) Left Side View | 7 |



D) Dimensioning.

3



Unit – VI

(Free Hand Sketches)

11. Draw proportionate free hand sketches of any two of the following : Rag Foundation bolt, compression helical spring and wing nut.

10

OR

12. Draw proportionate free hand sketches of any two of the following : Lifting eye bolt, square thread, Gib-headed key with assembly.

10