Total No. of Questions—**12**] [Total No. of Printed Pages—**8**

[4956]-6

Seat No.	

F.E. (Common) (First Semester) EXAMINATION, 2016

ENGINEERING GRAPHICS–I

(2008 PATTERN)

Time : Four Hours **Maximum Marks : 100**

N.B. **:—** (*i*) Answer any *one* question from each Unit.

(*ii*) Answers to the two sections should be drawn on separate drawing sheet, use back side of sheet.

(*iii*) Figures to the right indicate full marks.

(*iv*) Assume suitable data, if necessary.

(*v*) Retain construction lines.

(*vi*) Marks are reserved for Dimensioning and good presentation.

Section I

Unit I

1. (A) Draw an ellipse with major axis equal to 100 mm and minor axis is equal to 70 mm by using concentric circle method. [7]

(B) Draw an Archimedean spiral of one convolution with the shortest and longest radius vector of 10 mm and 50 mm lengths respectively. Draw normal and tangent to the curve at a point 25 mm from the pole. [8]

P.T.O.

Or

2. (A) A point P moves around the cone of 60 mm diameter and 70 mm height. Initially the point P is on periphery of base of 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. [8]

(B) Draw a cycloid generated by a point P on the circumference of the circle of diameter 56 mm when the circle rolls along a straight line and completes one rotation. Initially the position of point P is extreme top end. [7]

Unit II

3. Fig. No. 1 shows a pictorial view of an object. Draw the following views to full scale by using First Angle method of projection. : [8]

(1) Sectional elevations on a sectional plane A-A looking in the direction of arrow X.

(2) Top View (Plan) (show all the necessary dotted lines).

(3) RHSV

(4) Give the entire Dimensions. 7+6+5+2=20

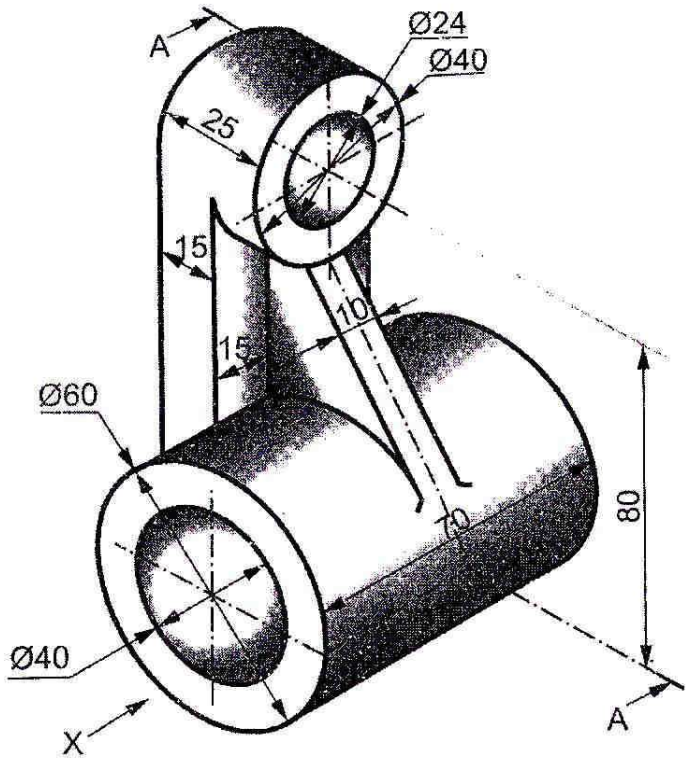

Fig. No. 1

Or

4. Fig. No. 2 shows a pictorial view of a SLIT GUIE. Draw the following views to full scale by using First Angle method of projection :

(1) Sectional Elevations along A-A looking in the direction of arrow X.

(2) Top View (Plan) (show all the necessary dotted lines).

(3) End view from Left Hand Side.

Give the entire Dimensions. 7+6+5+2=20

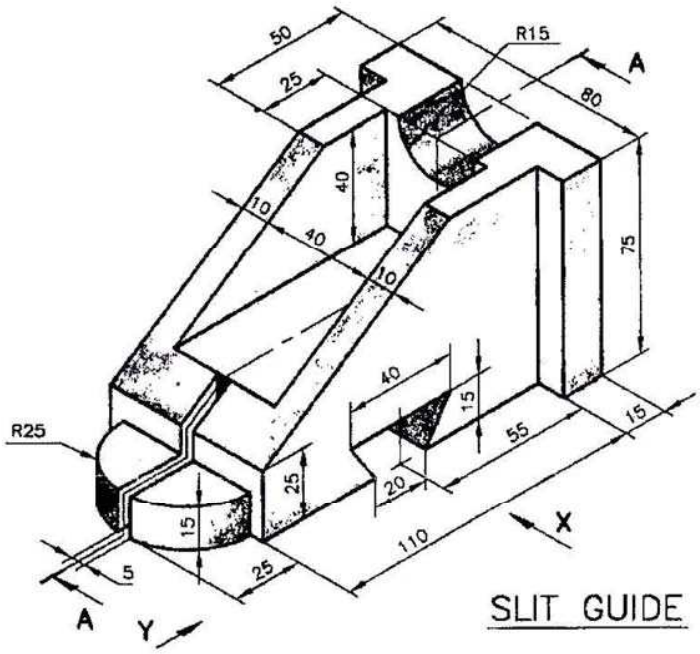

Fig. No. 2

UNIT III

5. Draw the given Front View and auxiliary views and add top view for the object shown in the following Fig No.3. Give all the dimensions. [3+4+8=15]

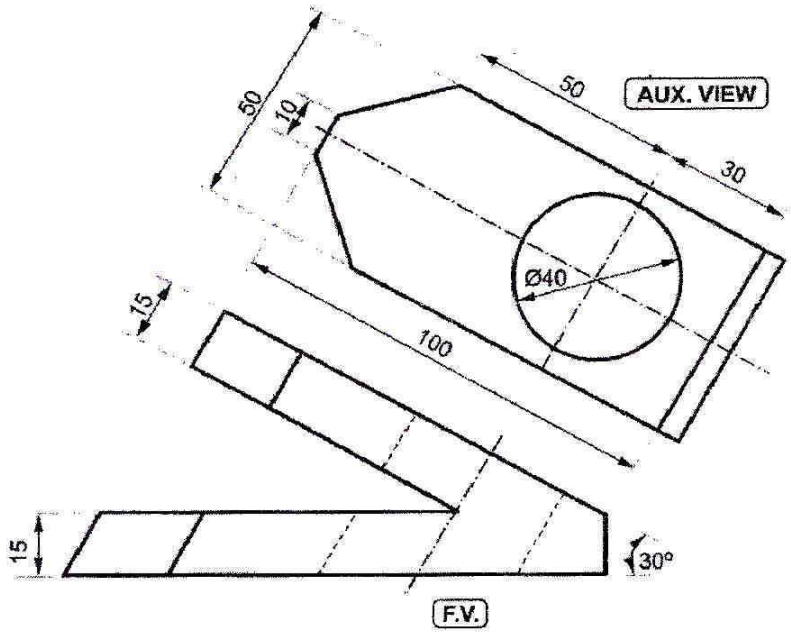

Fig. No. 3

Or

6. Machine Component is shown in the Fig. No. 4. Draw to full scale the following views :

(1) Given views,

(2) Add top view, and

(3) An auxiliary view in the direction of arrow X. Give all the dimensions. [5+4+6=15]

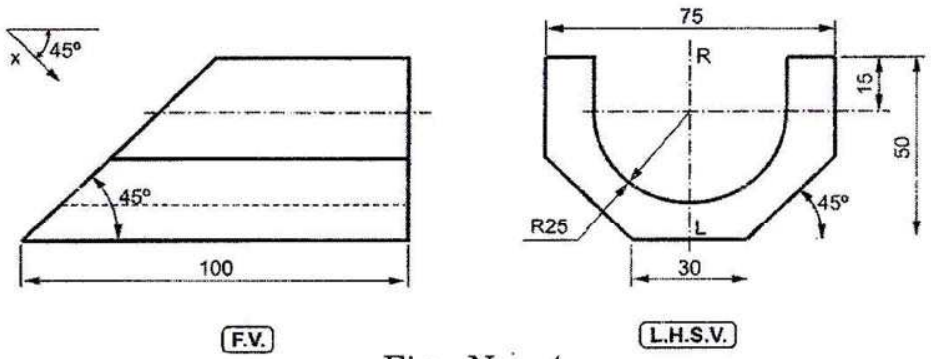

Fig. No. 4

SECTION II
UNIT IV

7. The following Fig. No. 5 shows plan and elevation of object according to First Angle Projections Method. Draw its Isometric View. Retain all the Construction lines and Construction you have made.

[17+3=20]

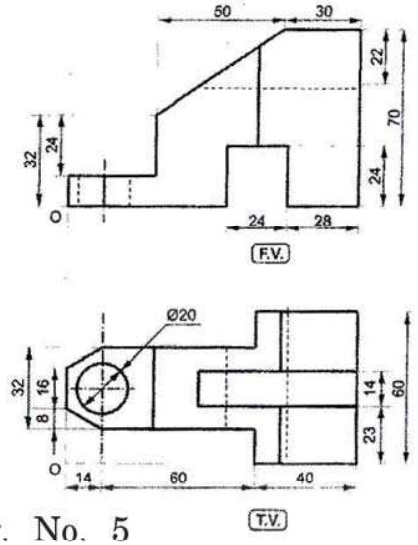

Fig. No. 5

Or

8. The following Fig. No. 6 shows Elevation and Right hand side view of the object draw its Isometric View. Retain all the Construction lines and Construction you have made. [17+3=20]

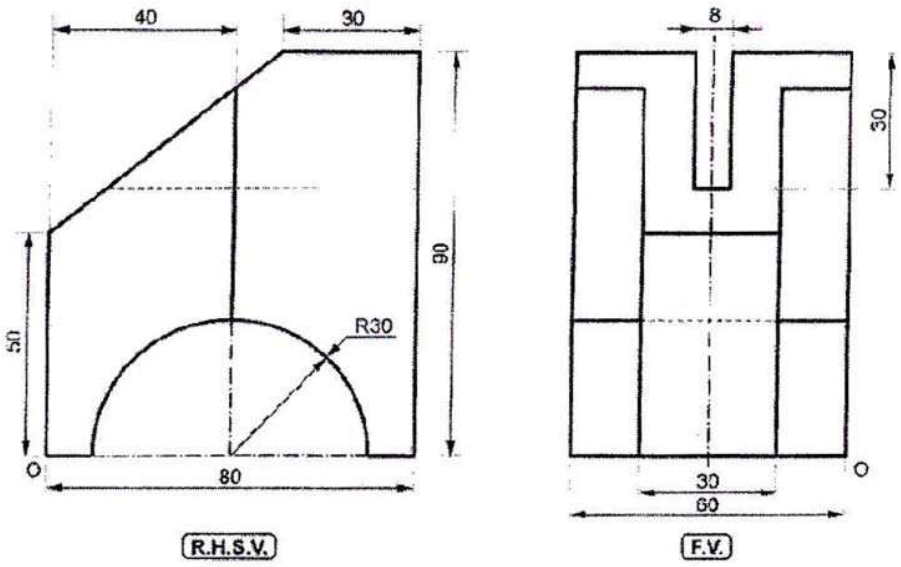

Fig. No. 6

UNIT V

9. The following Fig. No. 7 shows Elevation and End View of an object. Using same method of projection, draw the following views :

(*a*) Sectional elevation, section along A-A,

(*b*) End view,

(*c*) Plan, give all the dimension. [7+5+6+2=20]

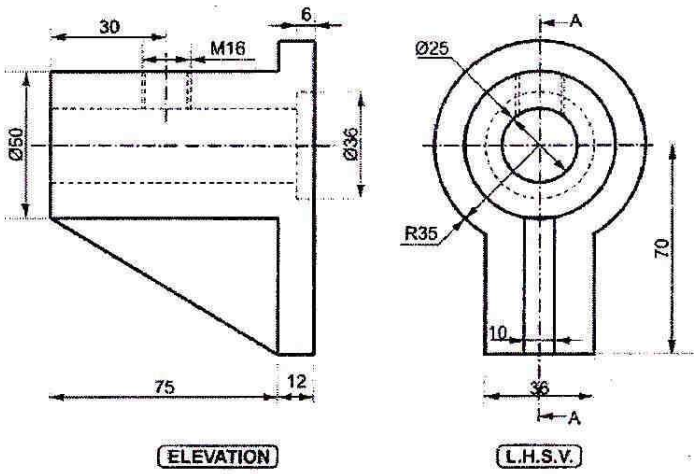

Fig. No. 7

Or

10. The following Fig. No. **8** shows Elevation and Plan of an object. Using same method of projection, draw the following views :

(*a*) Sectional Elevation, section along A-A,

(*b*) Left Hand Side view,

(*c*) Plan.

Give all the dimension. [7+6+5+2=20]

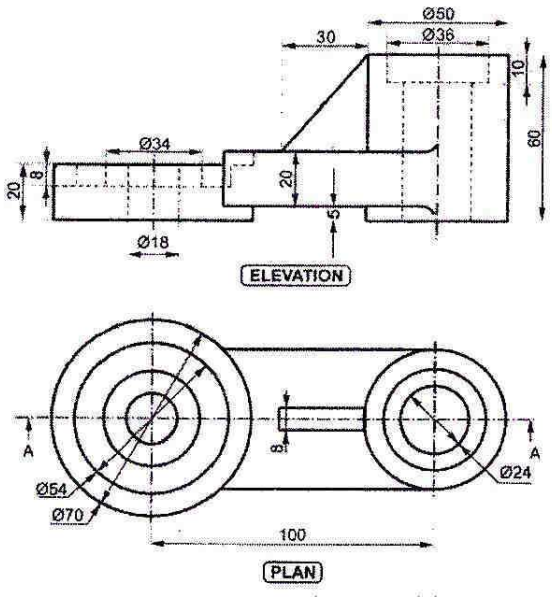

Fig. No. 8

UNIT VI

11. Draw proportional free hand sketches of any *two* from the following machine parts : [5+5=10]

(*i*) Lifting Eye Bolt

(*ii*) Studs

(*iii*) Woodruff Key and Gib headed Key

(*iv*) Cotter Joint with Sleeve.

Or

12. Draw proportional free hand sketches of any *two* from the following machine parts : [5+5=10]

(*i*) Double Riveted Lap Joint

(*ii*) Knuckle Joint

(*iii*) Flanged Coupling

(*iv*) Wing Nut.