22207

11819

4 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

(2) Figures to the right indicate full marks.

(3) Assume suitable data, if necessary.

Marks

1. Draw neat and proportionate free hand sketch of following any FIVE : **10**

(a) Double riveted lap joint. (chain type)

(b) Flexible flange coupling.

(c) Lewis foundation bolt.

(d) Wing Nut.

(e) Castle Nut.

(f) Single headed feather key.

(g) Draw conventional representation of following material :

(i) Glass

(ii) Concrete

2. Solve any THREE : **12**

(a) The top view of 80 mm long line CD measures 68 mm, while the length of its F.V. measures 54 mm. Its one end C is in HP and 15 mm in front of VP. Draw projection of CD and determine its incination with HP& VP. Also locate traces of the line.

(b) A circular plate of 40 mm dia. is resting on point of circumference on H.P. The plane of plate is normal to V.P. and inclined at 45° to H.P. A central square hole of 15 mm side is cut centrally through it. Take all sides of hole equally inclined to V.P. Draw (i) FV (ii) Top view.

(c) A semi-circular plate of 60 mm dia. has a straight edge in the V.P. and perpendicular to H.P. The surface of plate is inclined at 30° to V.P. Draw the projections.

(d) Draw the projection of cone having 40 mm base diameter and 60 mm axis lying on H.P. on one of its generator with axis parallel to V.P.

(e) Draw projection of cylinder 50 mm dia. and 70 mm axis resting on its circumference in H.P. with axis inclined at 45° to V.P. by auxiliary plane method.

3. Solve any TWO : **16**

(a) A pentagonal pyramid having side of base 30 mm and axis 65 mm long is resting in H.P. on one of its base corners. Draw its projections, if slant edge containing that corner makes an angle 45° to HP and its axis parallel to V.P.

(b) A tetrahedron of 60 mm edges stands on a face on the ground with an edge contained by that face perpendicular to V.P. It is cut by a section plane perpendicular to V.P. and inclined at 35° to H.P. and passing through a corner of the base. Draw (i) F.V. (ii) Sectional T.V. (iii) True shape of section.

(c) A square prism is resting on its base on H.P. such that all the vertical faces are equally inclined to V.P. It is cut by an Auxillary inclined plane in such a way that true shape of section is a rhombus of maximum diagonal length 100 mm and minimum diagonal length 50 mm. Draw (i) F.V. (ii) Sectional T.V. (iii) True shape of section. Determine side and height of prism.

4. Solve any TWO : **16**

(a) A pictorial view of an object is as shown in Fig. 1. Draw following views (i) Sectional F.V. section along A-A (ii) Plan (use first angle projection method).

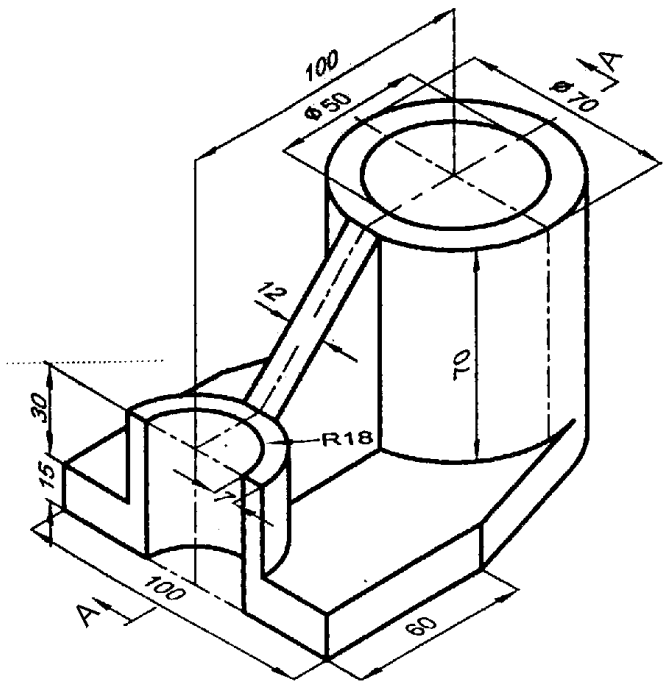

Fig. 1

(b) A pictorial view of an object is as shown in Fig. 2. Draw (i) Elevation (ii) Plan (iii) RHSV (sectional). (Use first angle projection method)

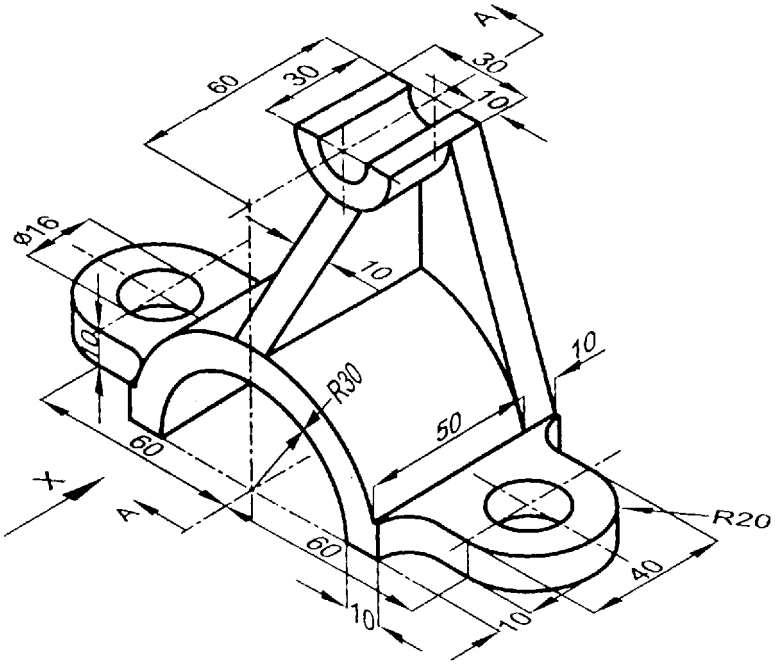

Fig. 2

(c) Fig. 3 shows front view, partial auxillary view and incomplete side view of a bracket. Redraw given figure and complete side view and auxillary view.

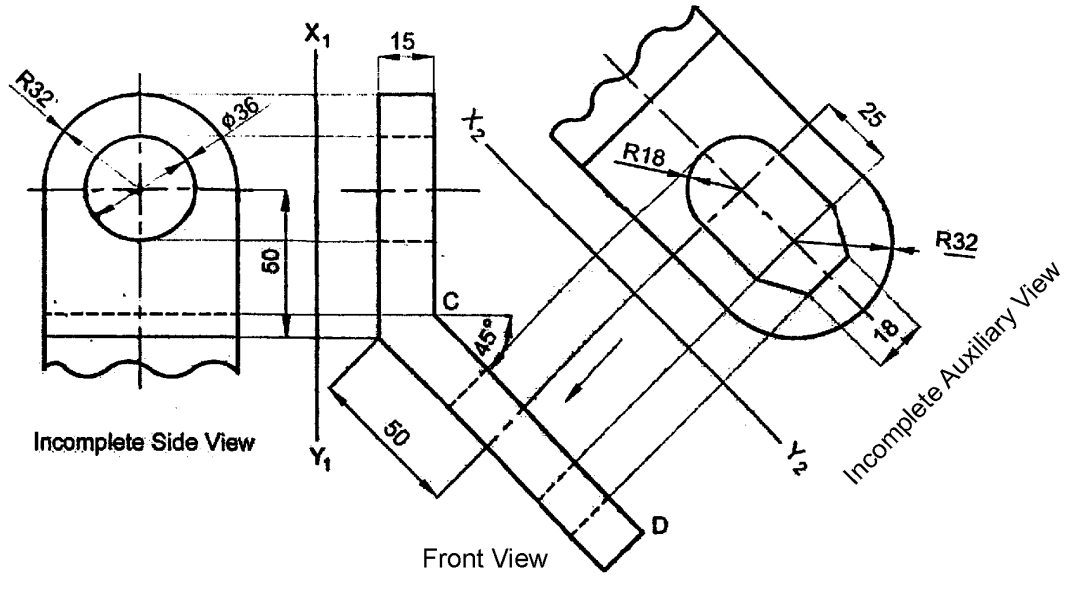

Fig. 3

5. Solve any TWO : **16**

(a) Fig. 4 shows F.V. and T.V. of an object. Draw the following views (i) sectional F.V. along section A-A (ii) Top view (iii) L.H.S.V. (First angle method)

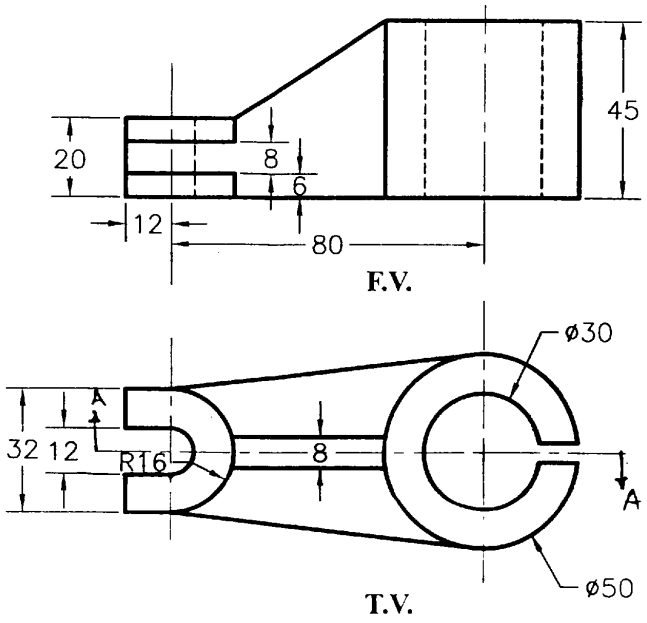

Fig. 4

(b) Fig. 5 shows front view and top view of the object. Draw the following views of the object. (Use first angle method) :

(i) Sectional Front view along A-A.

(ii) Top view

(iii) LHSV

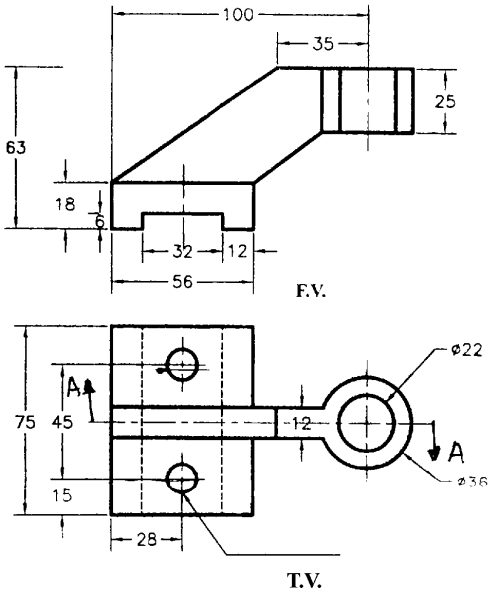

Fig. 5

P.T.O.

(c) Fig. 6 shows an angle plate 10 mm thick 60° angle having a circular hole of 30 mm diameter on an inclined surface as shown using first angle projection method. Draw its front auxiliary view.

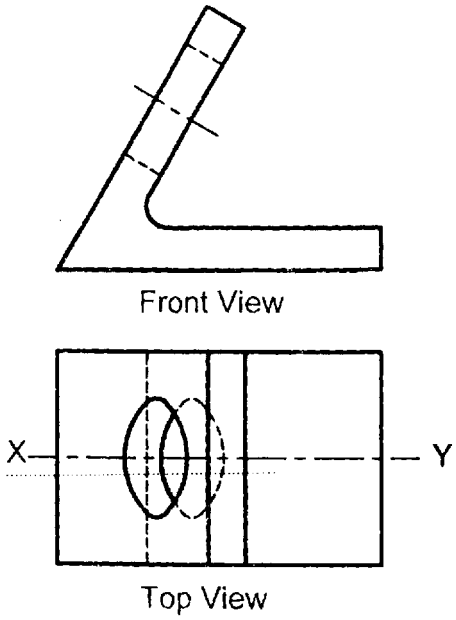

Fig. 6