

313311

12526

4 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answer with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following:

- a) Draw the conventional representation of following :- **10**
- Cast Iron, Glass,
 - Bearing
 - Pipe with rectangular section
 - Helical spring with circular cross section
 - Bevel gear
 - Check valve
 - Draw symbol of –
 - Parallism
 - Runout.

P.T.O.

b) Attempt any ONE of the following:

4

- The shaft size $\phi 40^{+0.04}$ and Hole size $+40^{+0.000}$. Determine type of fit between them.
- What is meaning of symbol 'X' and 'Y'.

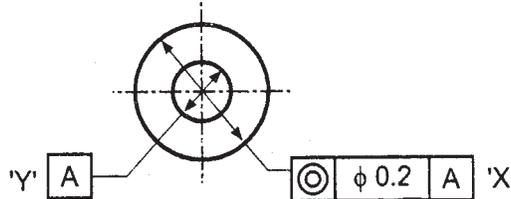


Fig. No. 1

2. Attempt any FOUR of the following:

16

- Refer given Figure No. 2. (a) and (b) what is meaning of 'X' and 'Y'.

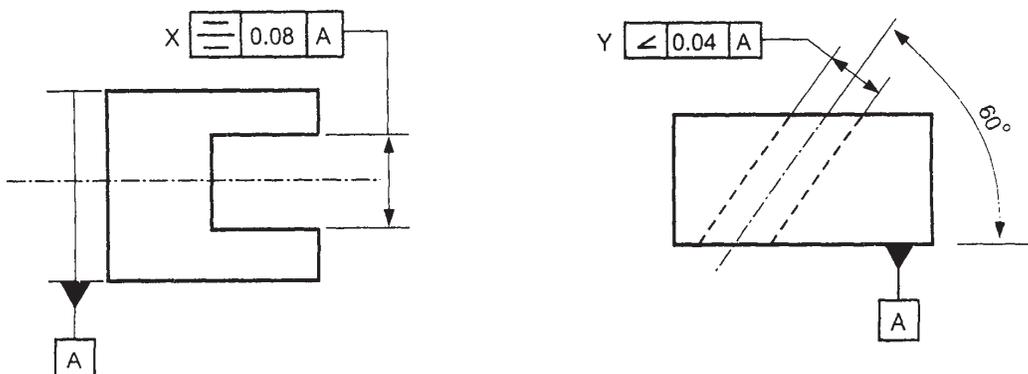


Fig. No. 2 a, b

b) Draw welding symbol of following :-

- Square butt weld
 - Fillet weld
 - Single V-butt weld with broad root face
 - Concave weld.
- c) The shaft and hole size are given below to find types of fit between them :-

$$\text{Shaft size} = \phi 16^{+0.023}_{-0.012}$$

$$\text{Hole size} = \phi 16^{+0.018}_{-0.000}$$

- d) Give the meaning of following symbol a, b, c, d, e and f
Figure No. 3.

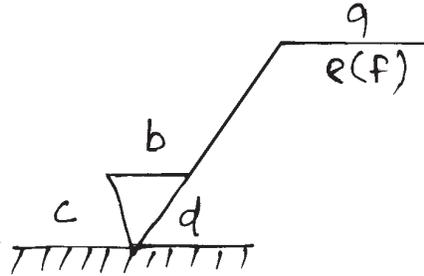


Fig. No. 3

- e) Draw symbole (Tolerance) of following :-
 i) Concentricity
 ii) Perpendicularity
 iii) Flatness
 iv) Profile of surface.
- f) Sketch to represent taper 1:10 on a shaft diameter 40 mm and length 110 mm.
3. a) Figure No. 4 shows the F.V. and incomplete T.V. and part Auxiliary view of an object. Redraw given view and complete the Top View. 8

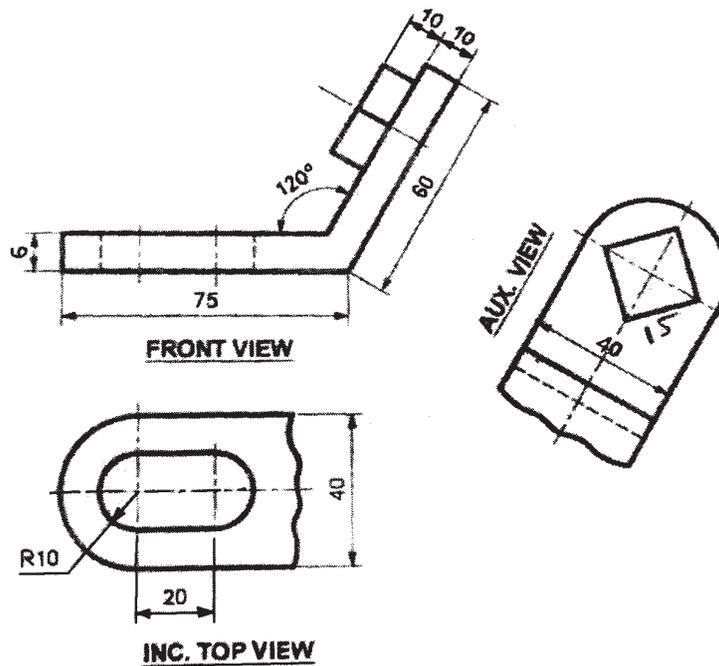


Fig. No. 4

OR

P.T.O.

- b) Figure No. 5 shows the incomplete elevation, plan and part auxiliary view. Redraw the given views and complete the elevation. Refer Figure No. 5

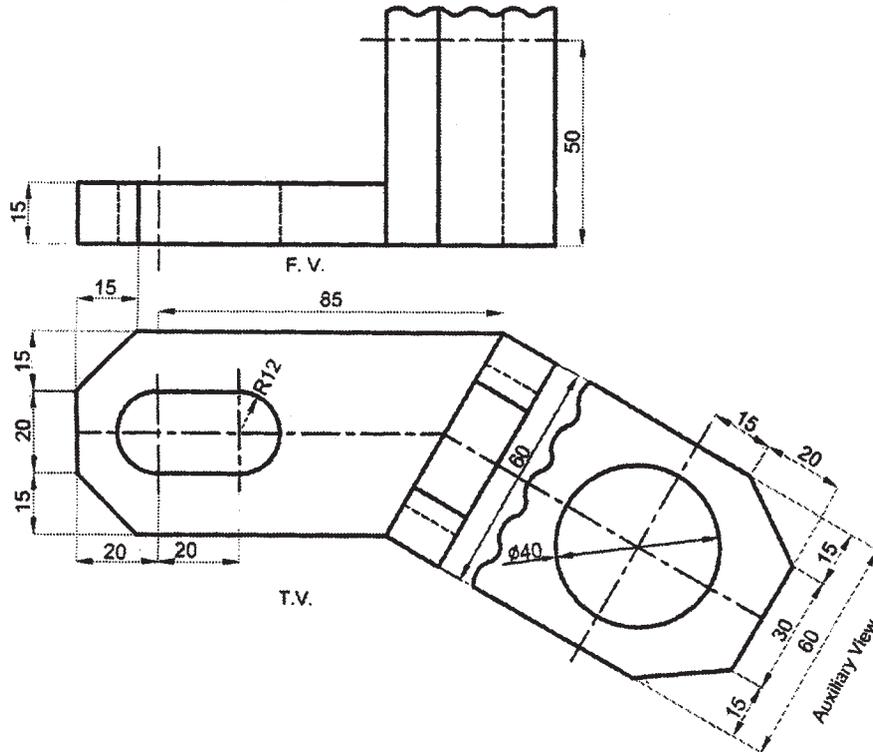


Fig. No. 5

4. a) Figure No. 6 shows details of foot step bearing. Draw S.F.V. and T.V. of an assembly of foot step bearing and part list. 16

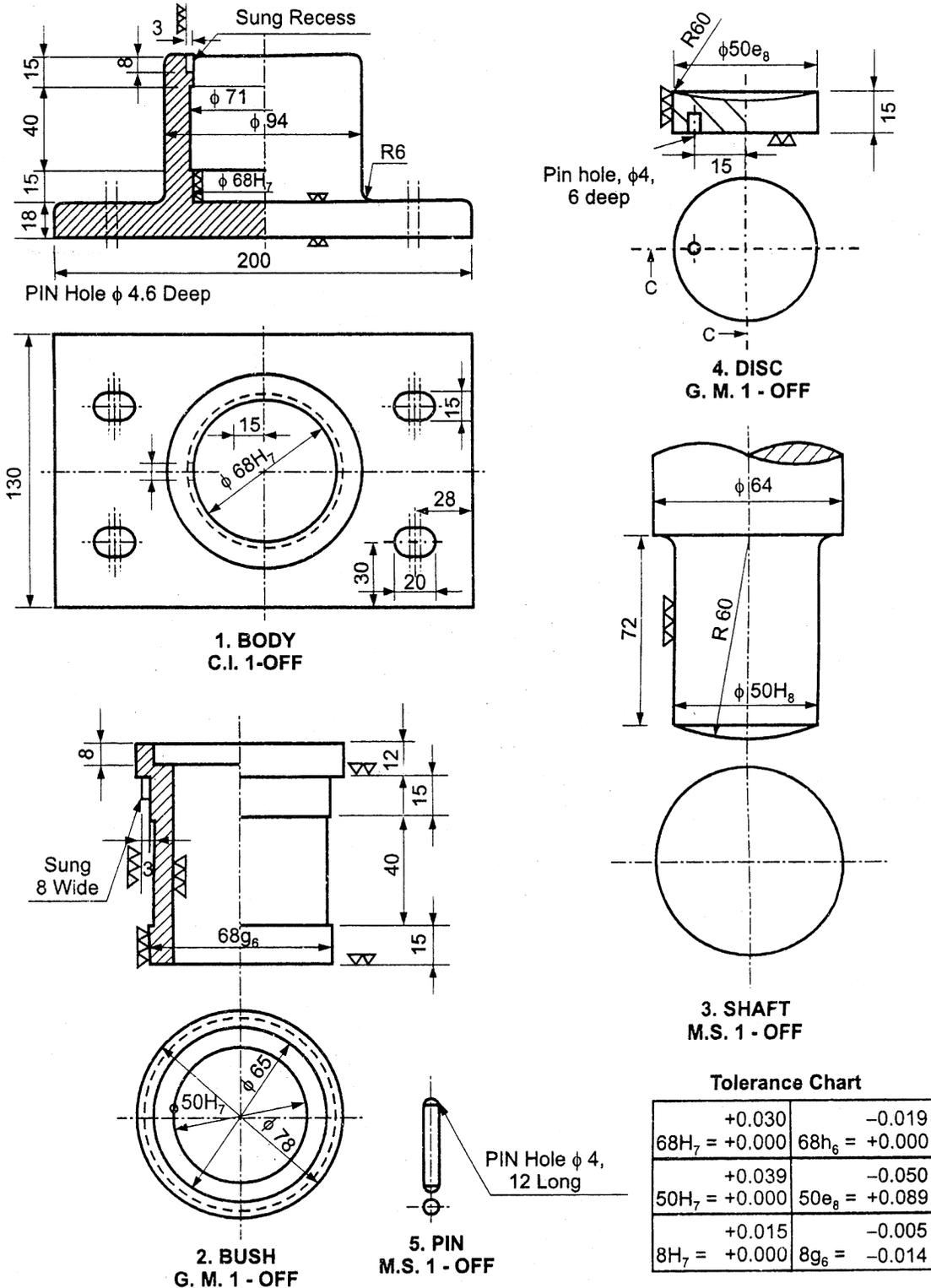


Fig. No. 6

OR

P.T.O.

b) Figure No. 7 shows details of Universal coupling. Draw S.F.V. and T.V. of assembly and part list. 16

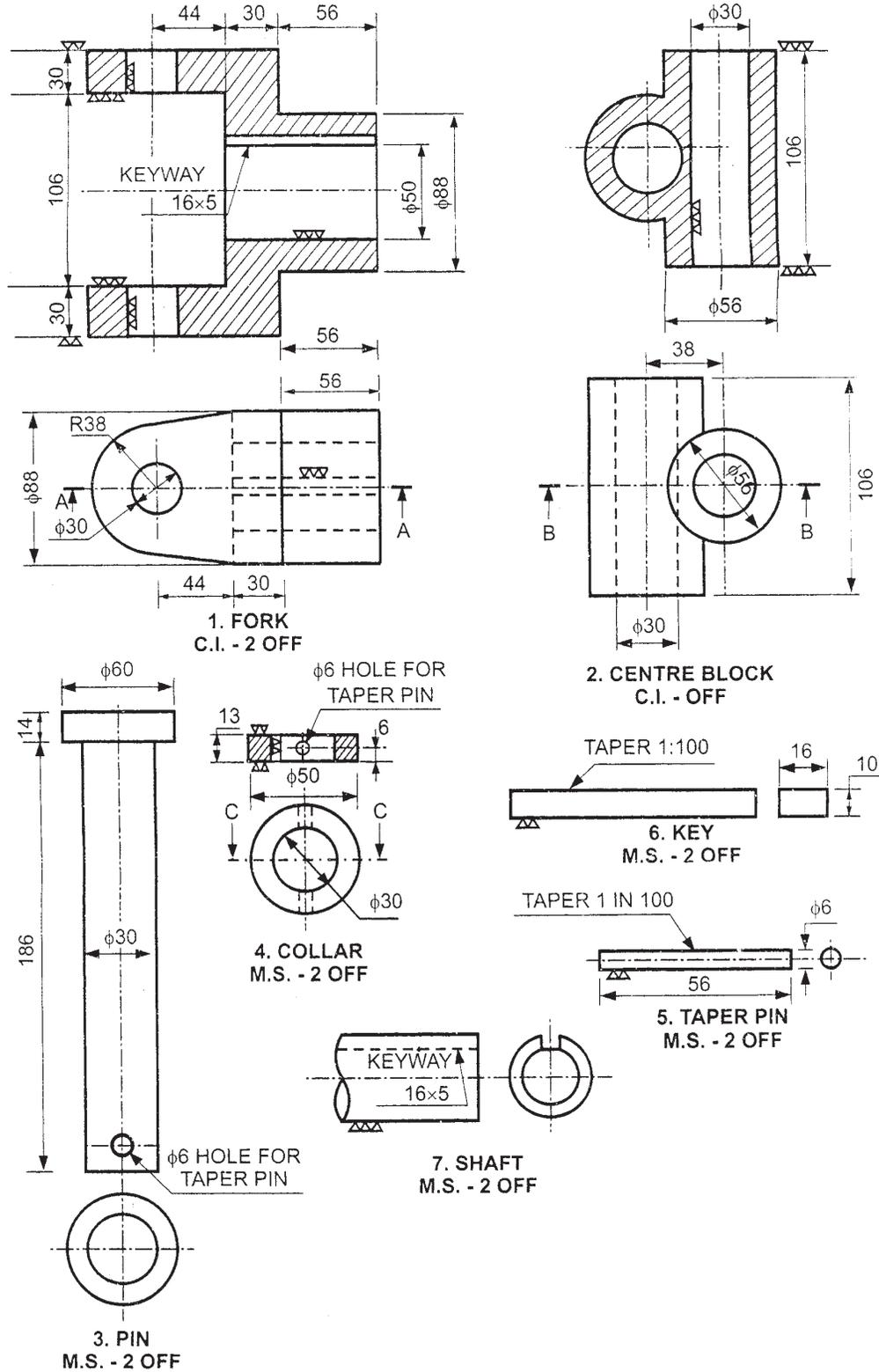
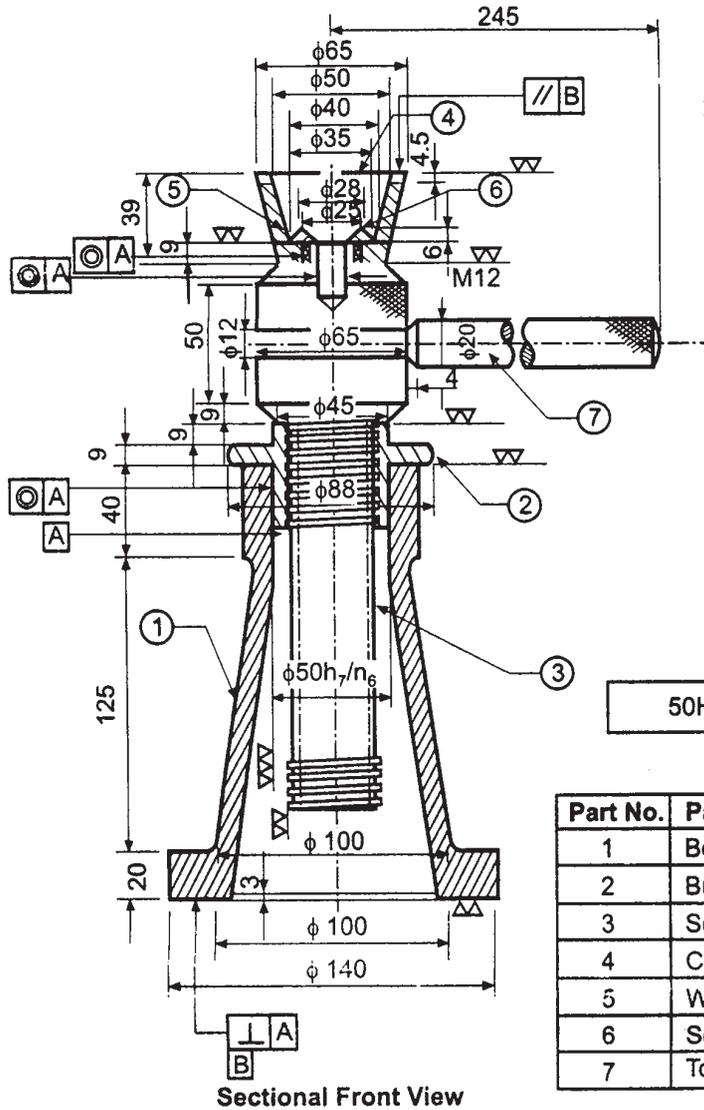


Fig. No. 7

5. Figure No. 8 shows assembly of screw Jack draw details of following :-

- i) Body, S.F.V. and T.V. 6
- ii) Bush, S.F.V. and T.V. 5
- iii) Screw, S.F.V. and T.V. 5



FIT CHART
 $50H_7/n_6 = \text{Transition Fit}$

PART LIST

Part No.	Part Name	Material	Quantity
1	Body	C.I.	1
2	Bush	M.S.	1
3	Screw	M.S.	1
4	Cup	C.I.	1
5	Washer	M.S.	1
6	Set Screw	M.S.	1
7	Tommy Bar	M.S.	1

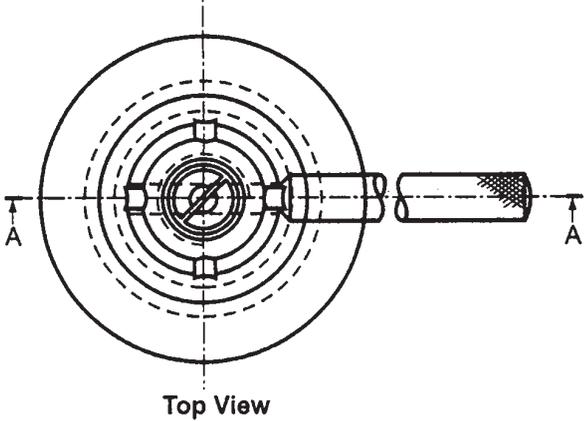


Fig. No. 8