



22341

12223

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 answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks**1. Attempt any FIVE of the following :****10**

- (a) Draw the conventional representation of the following :
 - (i) Break in pipe
 - (ii) "Tee" pipe joint
- (b) Draw the conventional representations of following :
 - (i) Ratchet and Pinion
 - (ii) Holes on circular pitch
- (c) Draw the conventional representations of following machine components :
 - (i) Ball Bearing
 - (ii) Spur Gear
- (d) Define "Taper". Draw its standard convention.
- (e) Show the position of unilateral and bilateral tolerance with the help of block diagram and zero line.



- (f) State the meaning of the symbol shown in Fig. No. 1.

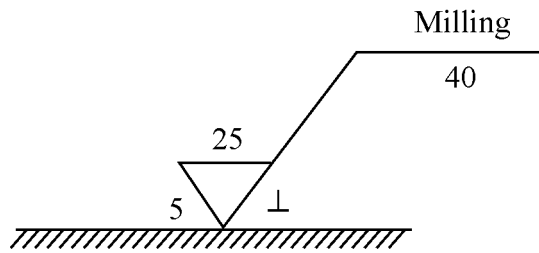


Fig. No. 1

- (g) Draw the actual view and conventional representation of :
- Internal Screw thread.
 - Semi-elliptic leaf spring with eyelets.

2. Attempt any TWO of the following :

12

- A vertical square prism having its faces equally inclined to the V.P. is completely penetrated by a horizontal cylinder, the axis of which is parallel to the V.P. and 6 mm away from that of the axis of prism. Draw projections of solids and show the curves of intersection. The length of side of base of the prism is 50 mm and the diameter of cylinder is 40 mm. Assume the length of axis of prism and cylinder is 110 mm.
- A vertical square prism of side 60 mm and height 110 mm is completely penetrated by a horizontal square prism of 45 mm side and 110 mm length. The axis of horizontal prism is 8 mm in front of the axis of vertical prism. All the rectangular faces of both the prisms are equally inclined to V.P. Draw the projections of solids and line of intersection.
- A cone with base diameter 70 mm and axis 70 mm is kept on H.P. on its base. It is penetrated by a horizontal cylinder of diameter 35 mm with its axis parallel to V.P. and intersecting the axis of the cone at a distance of 20 mm above the H.P. Draw the projections of solids and show curves of intersection.

3. (A) Attempt any ONE of the following :

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(a) Refer Fig. No. 2, State the meaning of symbols 'x' & 'y'

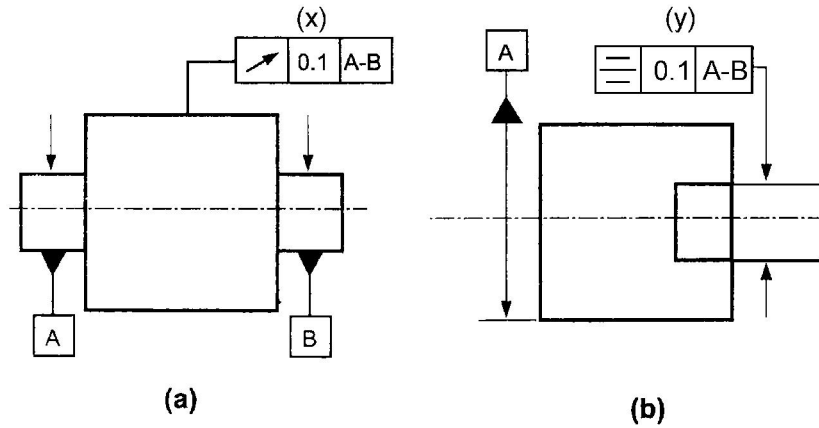


Fig. No. 2

(b) (i) Represent the welding drawing of two shafts with equal diameter welded end to end by means of square butt weld with convex counter of site.

(ii) State the meaning of 25 H₇g₈.

(B) Attempt any TWO of the following :

12

(a) Draw the development of the lateral surface of the cylinder having a diameter of 50 mm.

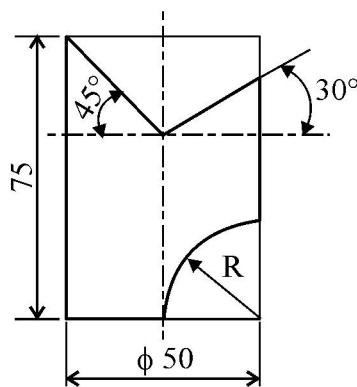


Fig. No. 3

- (b) Fig. No. 4 shows the front view of Funnel. Draw the developments of the lateral surface of each.

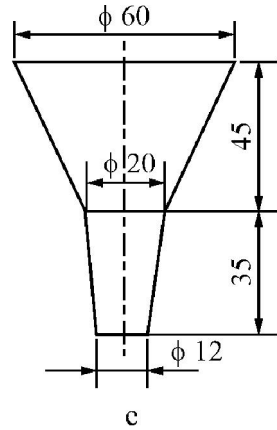


Fig. No. 4

- (c) Fig. No. 5 shows the front view and top view of a tray. Draw the development of it.

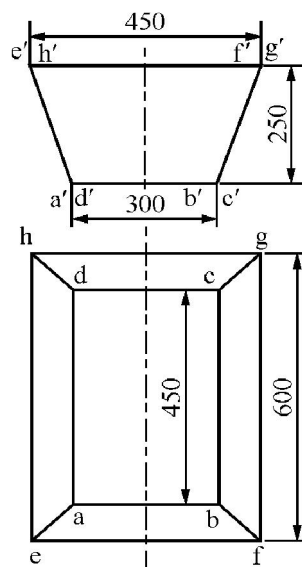
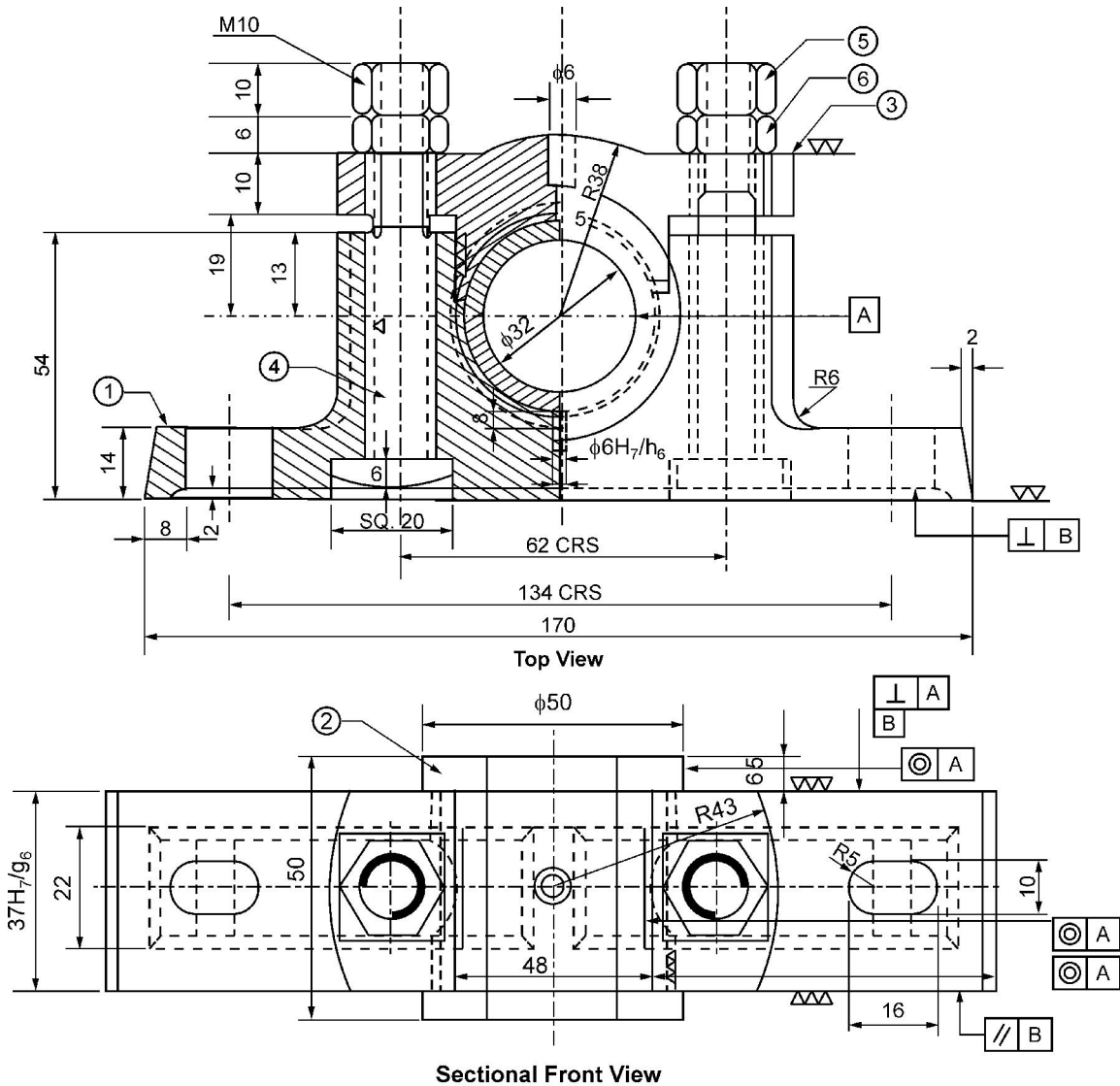


Fig. No. 5

4. Attempt the following :

Fig. No. 6 shows the Assembly of Pedestal Bearing. Attempt any two of the following.

- (a) Draw the Front View and Top View of Body.
- (b) Draw the Front View and Top View of Cap.
- (c) Draw the Front View and Top View of Brass.



PART LIST			
PART NO.	PART NAME	MATERIAL	QUANTITY
1.	BODY	C.I.	1
2.	BRASS	G.M.	1
3.	CAP	C.I.	1
4.	BOLT	M.S.	2
5.	NUT	M.S.	2
6.	LOCK NUT	M.S.	2

FIT CHART	
6H7/h6	= CLEARANCE FIR
44H7/g6	= CLEARANCE FIR
37H7/g6	= CLEARANCE FIR

ASSEMBLY OF PEDESTAL BEARING

Fig. No. 6

5. Attempt any ONE of the following :

(a) Fig. No. 7 shows the details of Pillar type tool post.

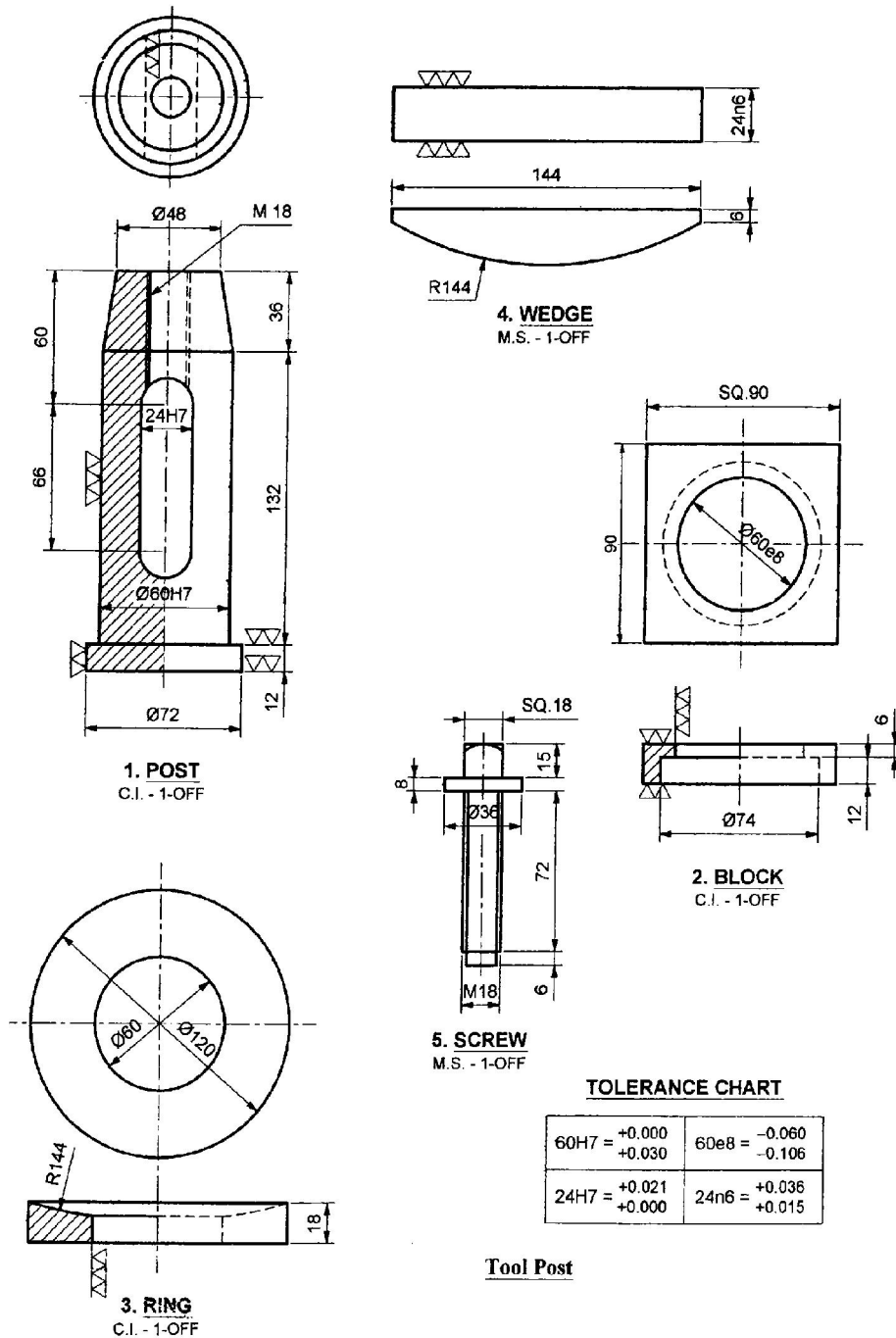


Fig. No. 7

- Draw :**
- (i) Half sectional front view of assembly.
 - (ii) Top view of assembly.

(b) Fig. No. 8 shows the details of screw jack.

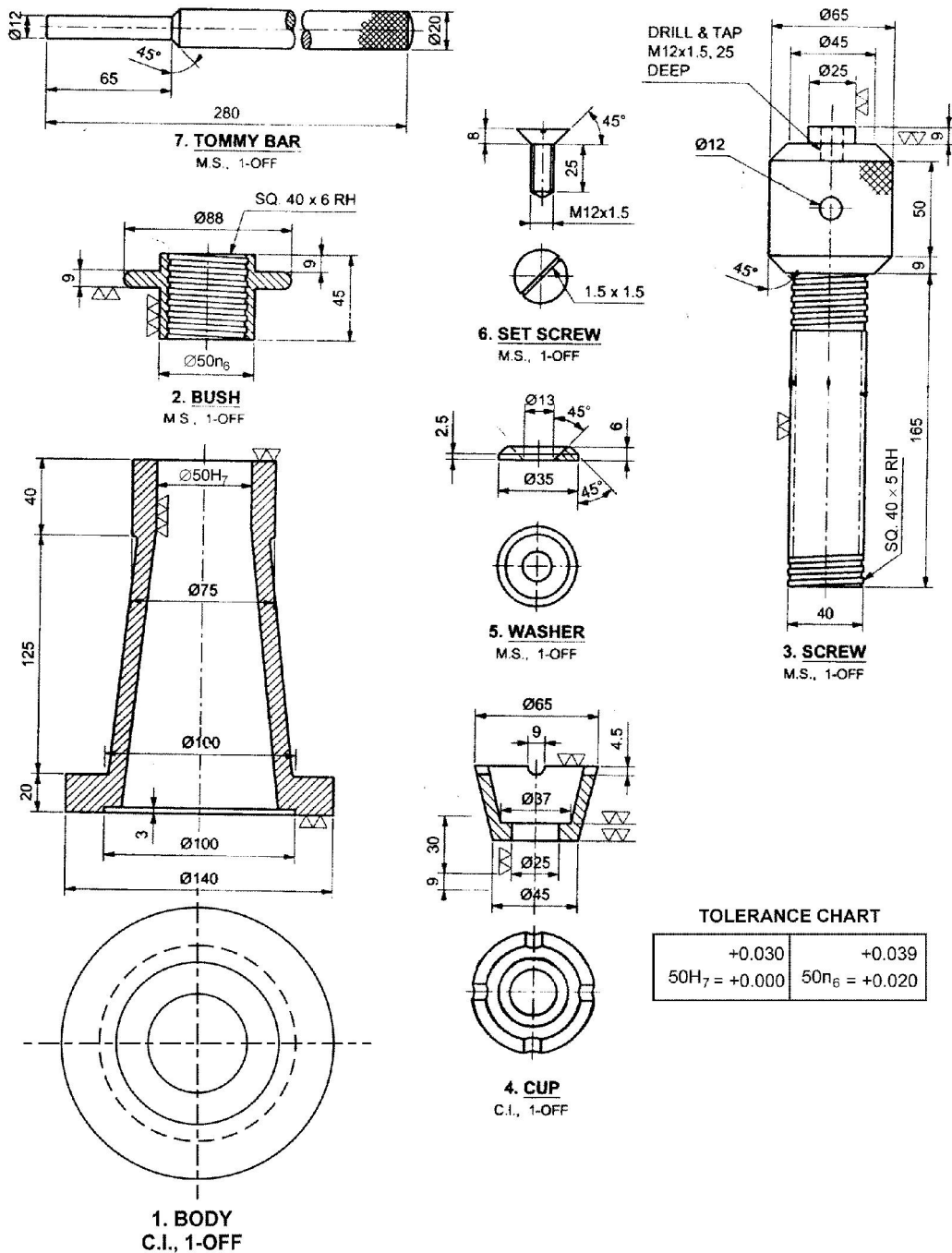


Fig. No. 8

- Draw : (i) Front view of an assembly.
(ii) Top view of an assembly.

