

22341

11920

4 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE :

10

- (a) Draw Conventional Representation for
 - (i) Diamond Knurling
 - (ii) Splined Shaft
- (b) Draw actual view and conventional representation for
 - (i) Ball Bearing
 - (ii) Semi-elliptical leaf spring with eyehole
- (c) Draw a sketch with its representation
 - (i) Cross
 - (ii) Gate valve

- (d) Draw the conventional representation of
- (i) Pipe or tubing
 - (ii) I section
- (e) Draw the sketch of
- (i) Counter bore
 - (ii) Counter sunk
- (f) Draw a sketch to represent taper 1 : 10 on a shaft of diameter 40 mm and length 110 mm.
- (g) Draw the symbol for representing the geometrical tolerance in case of following :
- (i) Concentricity
 - (ii) Angularity

2. Attempt any TWO :

12

- (a) A vertical square prism base 50 mm side and height 90 mm is completely penetrated by a horizontal square prism base 35 mm side and axis length 90 mm, so that their axes are 6 mm apart. The axis of horizontal prism is parallel to VP while faces of both prism are equally inclined to VP. Draw the projection showing line of intersection.
- (b) A cylinder 50 mm diameter and 70 mm height is completely penetrated by another cylinder of 40 mm diameter and 70 mm length horizontally, the axis of which is parallel to both HP & VP and intersecting axis of vertical cylinder at right angle. Draw projection showing curve of intersection.

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- (c) A cone with base diameter 70 mm & axis height 65 mm is kept on HP on its base. It is completely penetrated by a horizontal cylinder of 35 mm diameter and 80 mm length with its axis parallel to VP and intersecting axis of cone at a distance 25 mm above base of cone. Draw projection showing curve of intersection.

3. (A) Attempt any ONE :

4

- (i) The shaft size is given as $\phi 16^{+0.023}_{-0.012}$ and hole size is $\phi 16^{+0.018}_{-0.000}$.

Determine type of fit between them.

- (ii) State the meaning of symbol at X & Y.

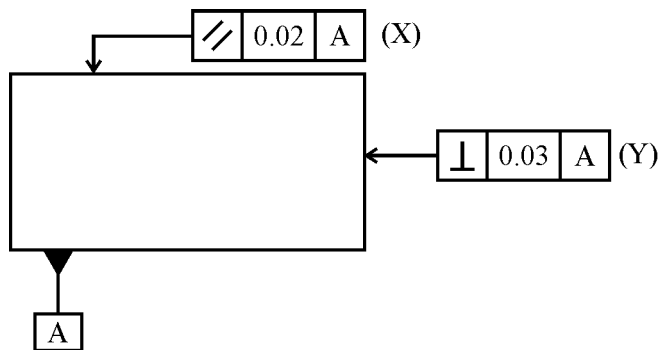


Fig. 1

P.T.O.

(B) Attempt any TWO :

12

- (i) Draw development of surface of a cylinder having base diameter 50 mm and axis height 80 mm kept of HP. It is cut by a cutting plane which is inclined at 45° with HP and bisecting axis of cylinder.
- (ii) A square prism of base side 40 mm and axis height 90 mm is rest on HP such that its side of base equally inclined with VP. A circular hole of diameter 85 mm is drilled through prism such that axis of hole is perpendicular to VP and parallel to HP and bisect axis of square prism. Draw development of surface of prism.
- (iii) Figure shows FV of a square pyramid. Draw its development of lateral surfaces of a pyramid also add top view.

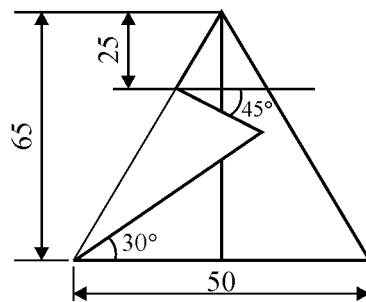


Fig. 2

4. Figure shows assembly of Non-Return Valve. Draw the details of following (any TWO) :

- (i) Body : Sectional FV & TV
- (ii) Cover : Sectional FV & TV
- (iii) Draw two view of valve & valve seat.

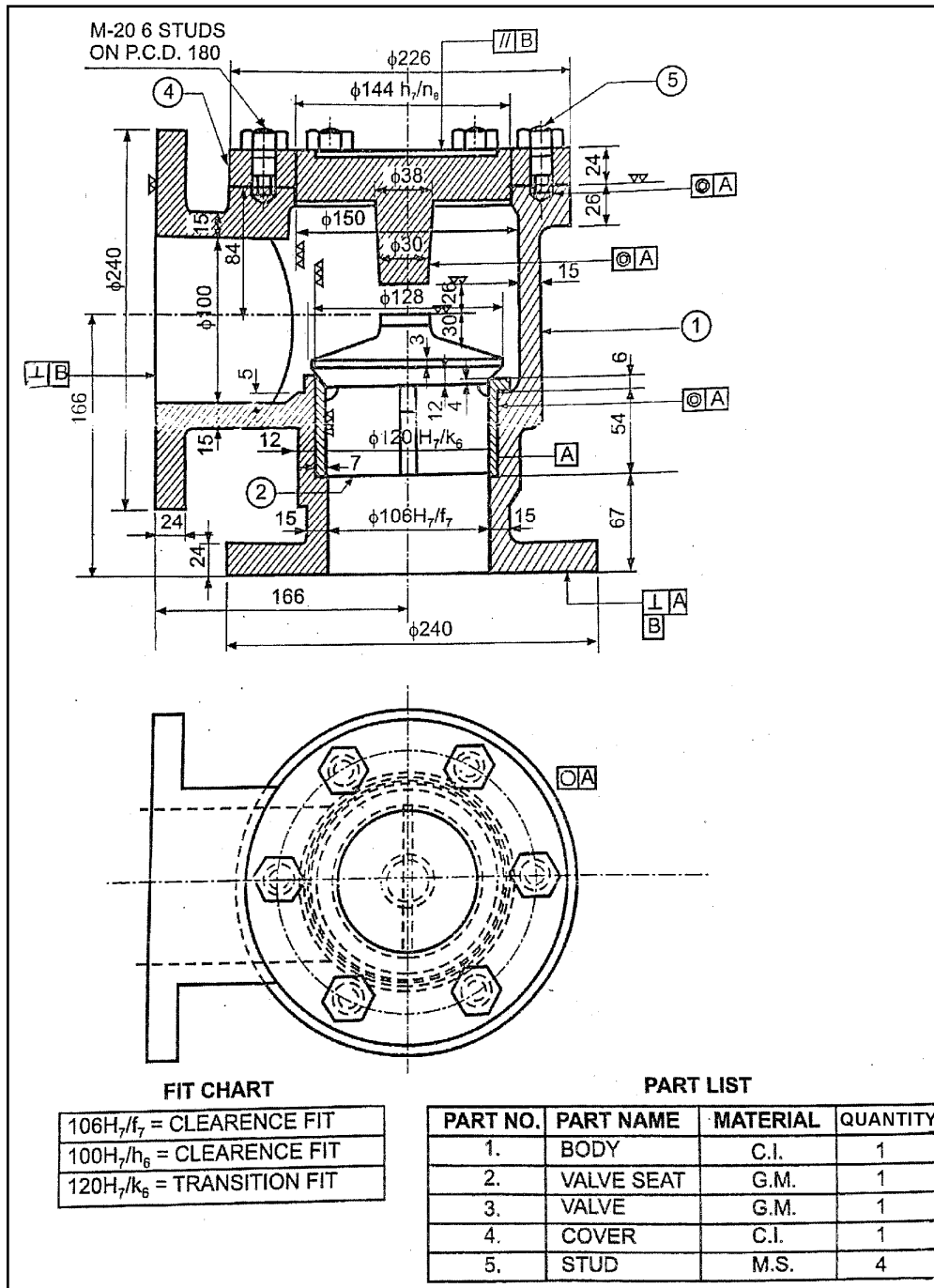


Fig. 3

5. Attempt any ONE :

(a) Figure shows details of screw jack. Draw the following views of assembly :

- (i) Sectional FY
- (ii) Top view
- (iii) Prepare bill of material.

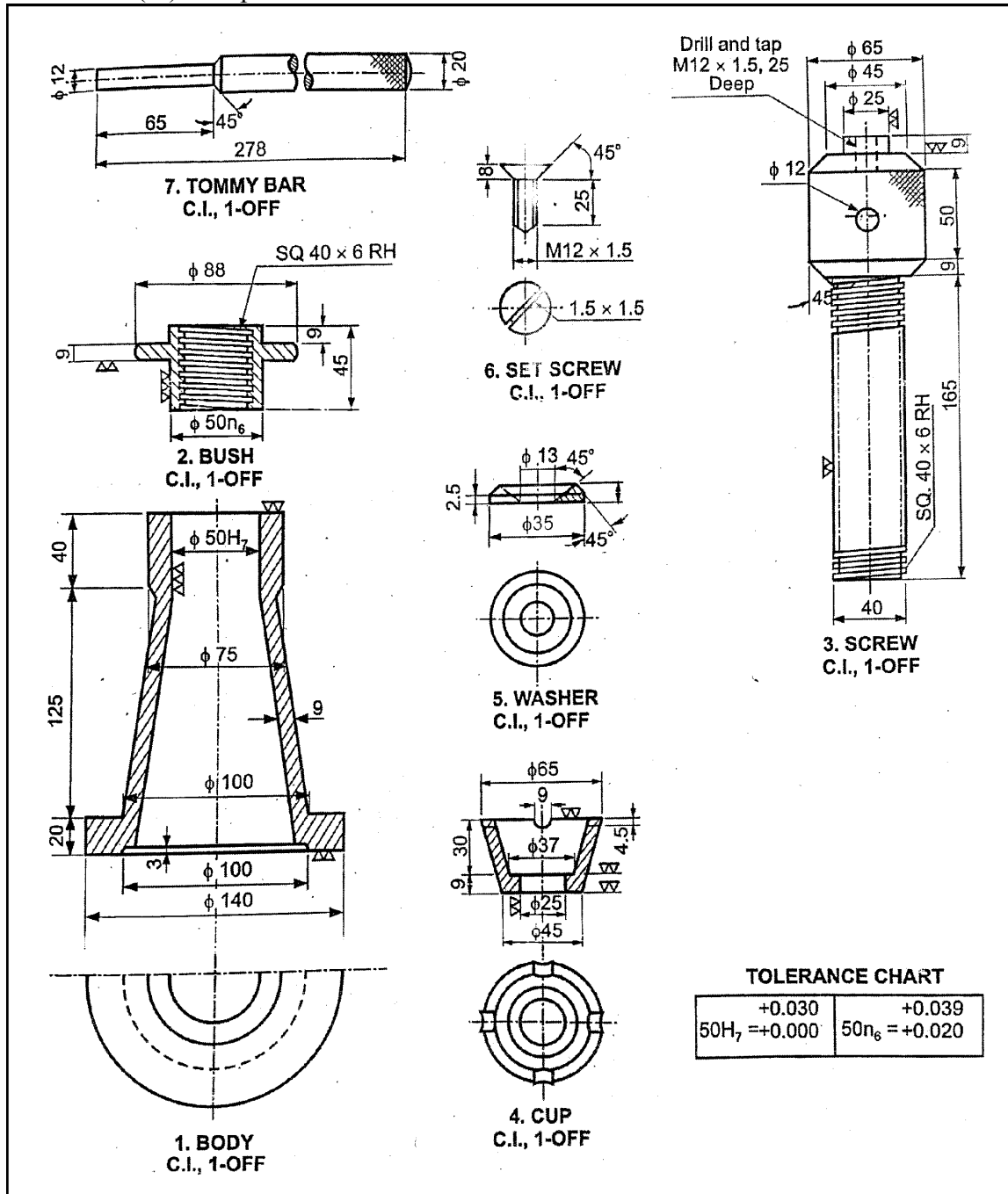


Fig. 4

- (b) Fig. shows details of lathe tool post. Draw the following views of assembly :
- (i) Sectional FV
 - (ii) Top view
 - (iii) Prepare bill of material and indicate type of fit.

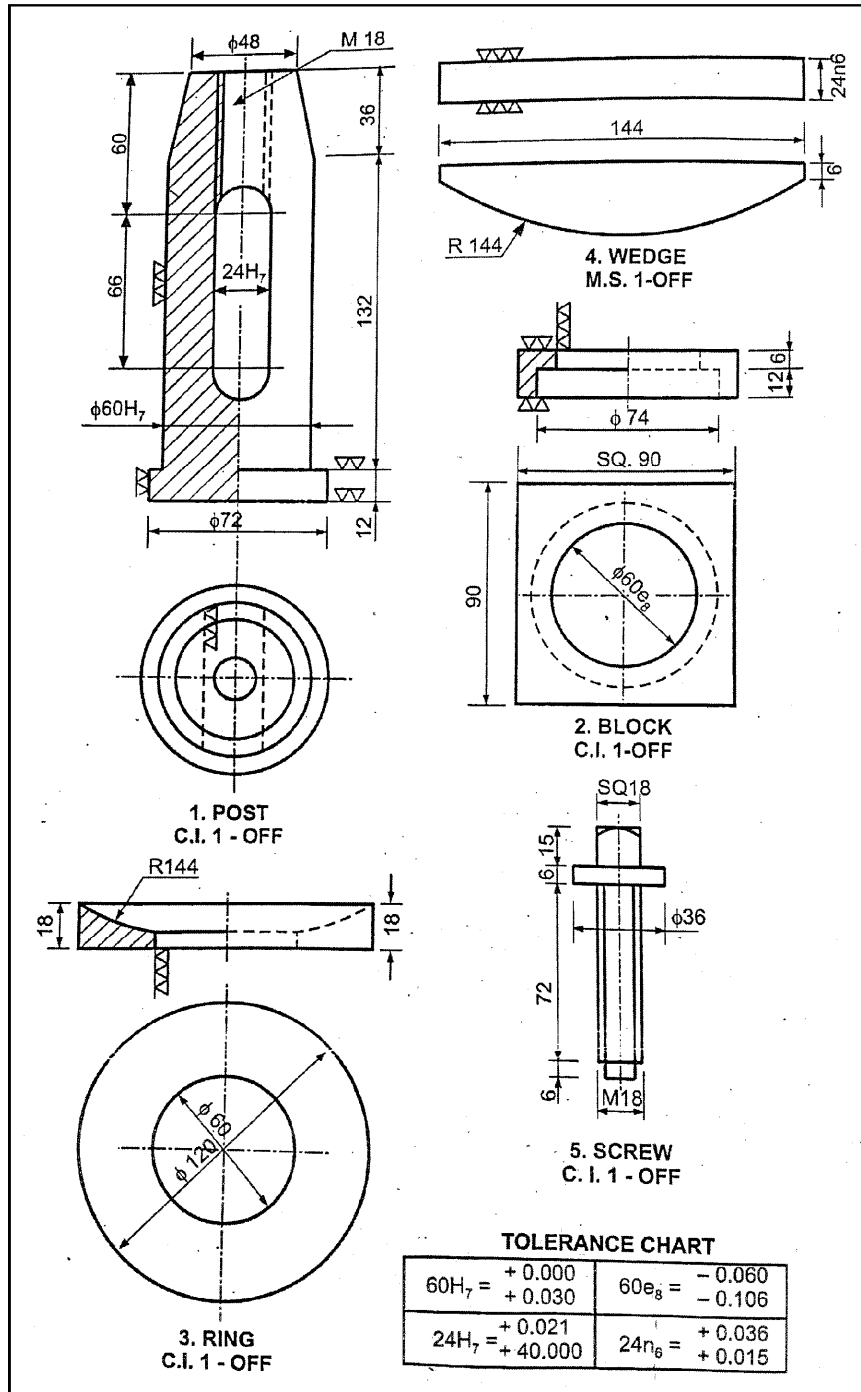


Fig. 5

