

**SUBJECT CODE NO:- P-180**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**S.E.(MECH/PROD) Examination MAY/JUNE-2016**  
**Machine Drawing**  
**(Revised)**

[Time:Four Hours]

[Max Marks:80]

“Please check whether you have got the right question paper.”

N.B

- i) All questions are compulsory.
- ii) Figures to the right indicate full marks.
- iii) Assume suitable data, if and wherever necessary.

**Section A**

- Q.1 a) Two points A and B are 100mm apart. A point C is 75mm from A and 60mm from B. Draw an ellipse passing through points A, B and C. 08
- b) An inelastic string has its one end attached to the circumference of a circular disc of 40 mm diameter. Draw the curve traced out by the other end of the string, when it is completely wound around the disc, keeping the string always straight. 08

- Q.2 Fig. no.1 shows incomplete front view, top view and partial auxiliary view of an object. Draw the following 12  
 views:-
- i. Complete Front View
  - ii. Auxiliary view
  - iii. Redraw Top view

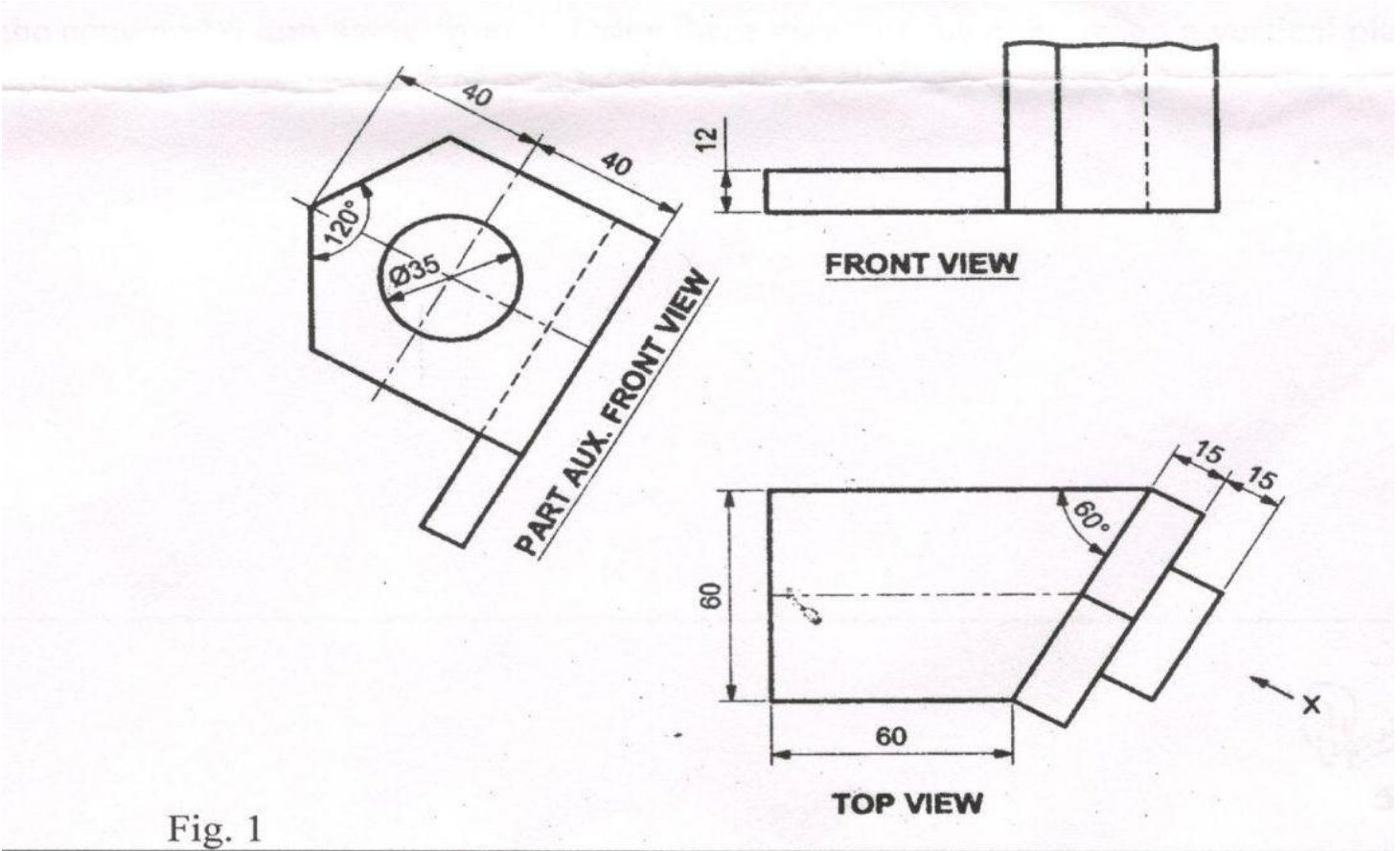


Fig. 1

OR

Two views of an object are shown in Fig. no.2. Draw its isometric view.

12

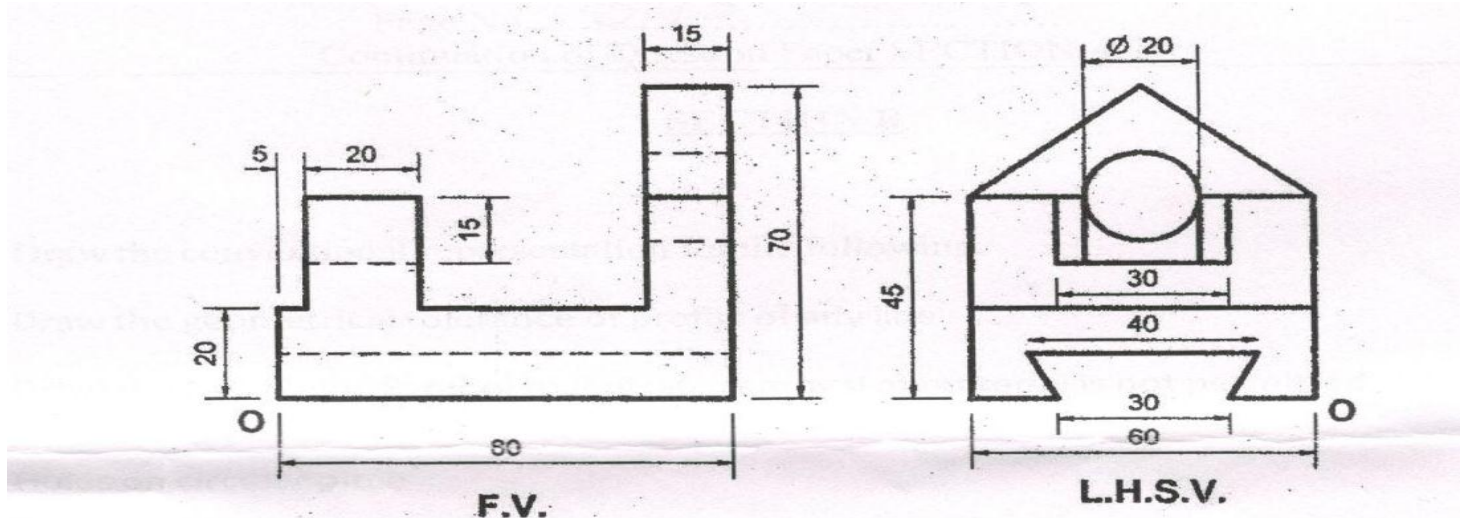


Fig. No.2

Q.3 A vertical square prism of side 50mm and height 100mm is resting on the ground on its base with one side of base inclined at  $30^\circ$  to the V.P. and is completely penetrated by a horizontal square prism of 40mm side and 100mm axis length. The axis of the horizontal square prism is parallel to the V.P. and bisects the axis of the vertical prism at right angle. All rectangular faces of the horizontal prism are equally inclined to the V.P. Draw the projections of the solids showing the lines of intersection.

12

OR

A hole of 25mm diameter is drilled in a cone having 75mm diameter of base and 60mm height. The axis of the hole is 20mm above base of the cone, parallel to the axis to the cone and 6mm away from it. Draw three views of the cone when a vertical plane containing the two axes is perpendicular to the V.P.

12

### Section B

Q.4 Draw the conventional representation for the following.

15

- i. Draw the geometrical tolerance of profile of any line.
- ii. Draw the Machining Symbol to indicate removal of material is not permitted.
- iii. Holes on circular pitch.
- iv. Angular dimensions of Uni-directional System.
- v. Equivalent Surface Roughness Symbol for N12.
- vi. Position of weld symbol.
- vii. Equivalent Surface Roughness Symbol of N3.
- viii. Cylindrical compression spring.
- ix. Draw the geometrical tolerance of Angularity.
- x. Geometrical tolerance of Run out.
- xi. Square butt weld.
- xii. Clearance Fit.
- xiii. Surface texture obtained without removal of material.
- xiv. Datum as exact geometric reference.
- xv. Worm wheel.

Q.5 Figure No. 3 below shows details of a Screw Jack. Draw the following views of the assembly drawing along with 25 part numbering and part list.

- i. Sectional front view
- ii. Top view

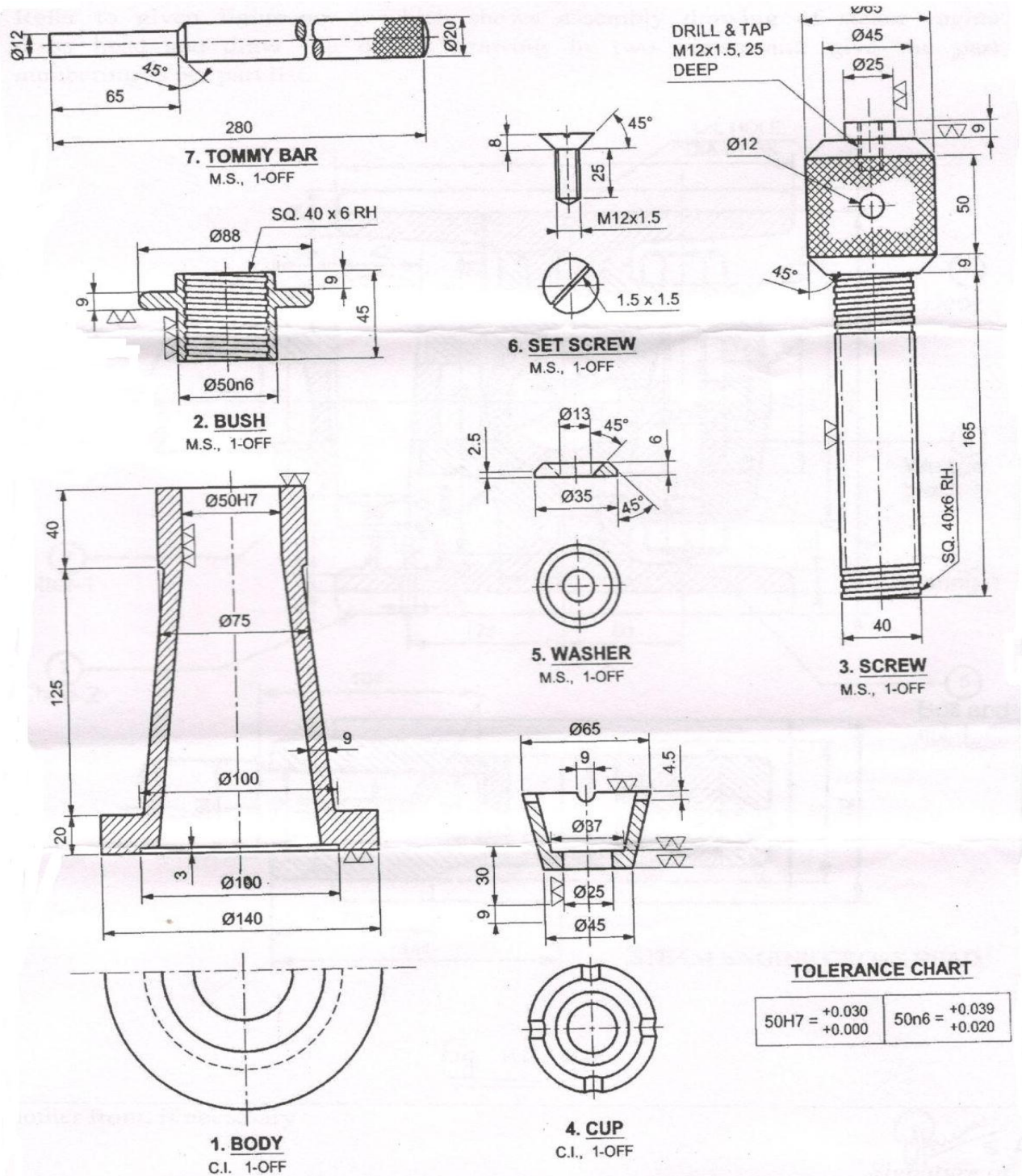


Fig. no. 3 Screw jack coupling details



OR

Refer to given figure no. 4 which shows assembly drawing of steam engine cross head and draw the details drawing in two views and give the part numbering as per part list.

25

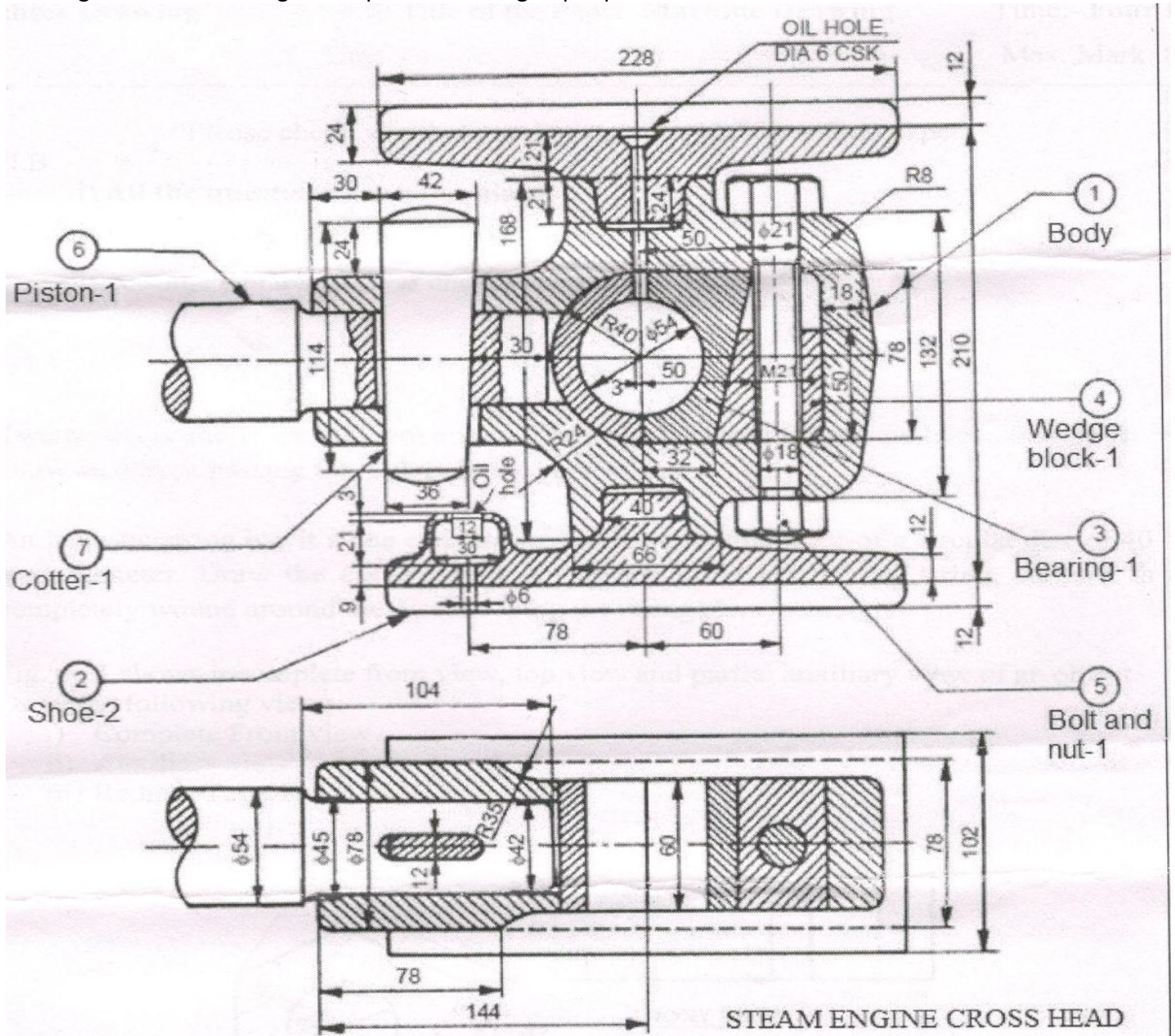


Fig no. 4