

- N.B.:** (1) Question No. 1 is **compulsory**.
 (2) Attempt any **four** questions from the **remaining**.
 (3) Use your judgement for any **unspecified** dimensions.
 (4) Use only drawing sheets for **answering**.
 (5) Use **first angle** method of **projections** for **answering**.
 (6) **Neatness** and **cleanliness** will be considered while **assessing**.

1. (a) Draw only with free hand the sketches for any two of the following (two views each): 10
 i) Step cone pulley
 ii) Spigot and socket cotter joint
 iii) Split muff coupling
 (b) Draw I.S. conventional representation of assembly of threaded parts in external or sectional views 03
 (c) Explain in general the steps required to be followed in preparing assembly drawing from details and vice versa 07
2. (a) A vertical cone of diameter 100 mm and axis 100 mm is penetrated by a vertical square prism, having edges of base 45mm. The axis of the square prism is 10 mm away from the axis of the cone and the plane containing both the axes is perpendicular to the V.P. The rectangular face of the square prism makes 30 degrees with V.P. Draw the front view and the top view showing the curves of intersections. 10
 (b) A square prism with side of base 40 mm and height 70 mm is kept on the H.P. on its base, with two vertical faces making 20° with V.P. A cylinder of diameter 40 mm penetrates completely through the prism, in such a way that the axis of the cylinder is parallel to V.P. and bisects the axis of the prism at right angle. Draw the projections showing curves of intersection. 10
3. (a) Draw free hand sketches for any two of the following (in two views):- 10
 i) Fast and loose pulley
 ii) Indexing drilling jig
 iii) Plummer block
 (b) Define terminology of limit system 10
4. (a) Fig. 1 shows two views of the object. Draw the given views and add an auxiliary view from the direction of arrow 'X' 12

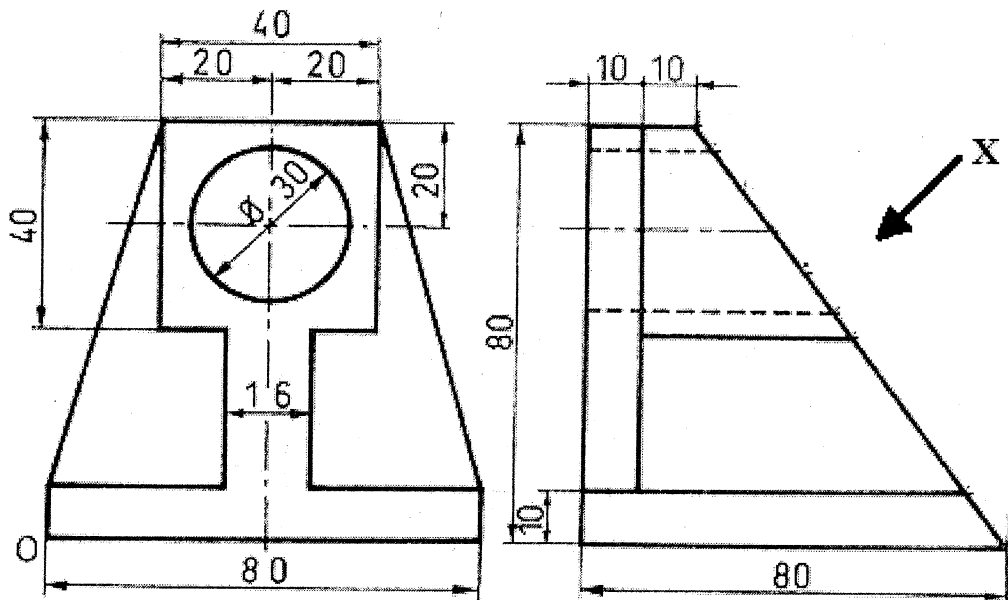
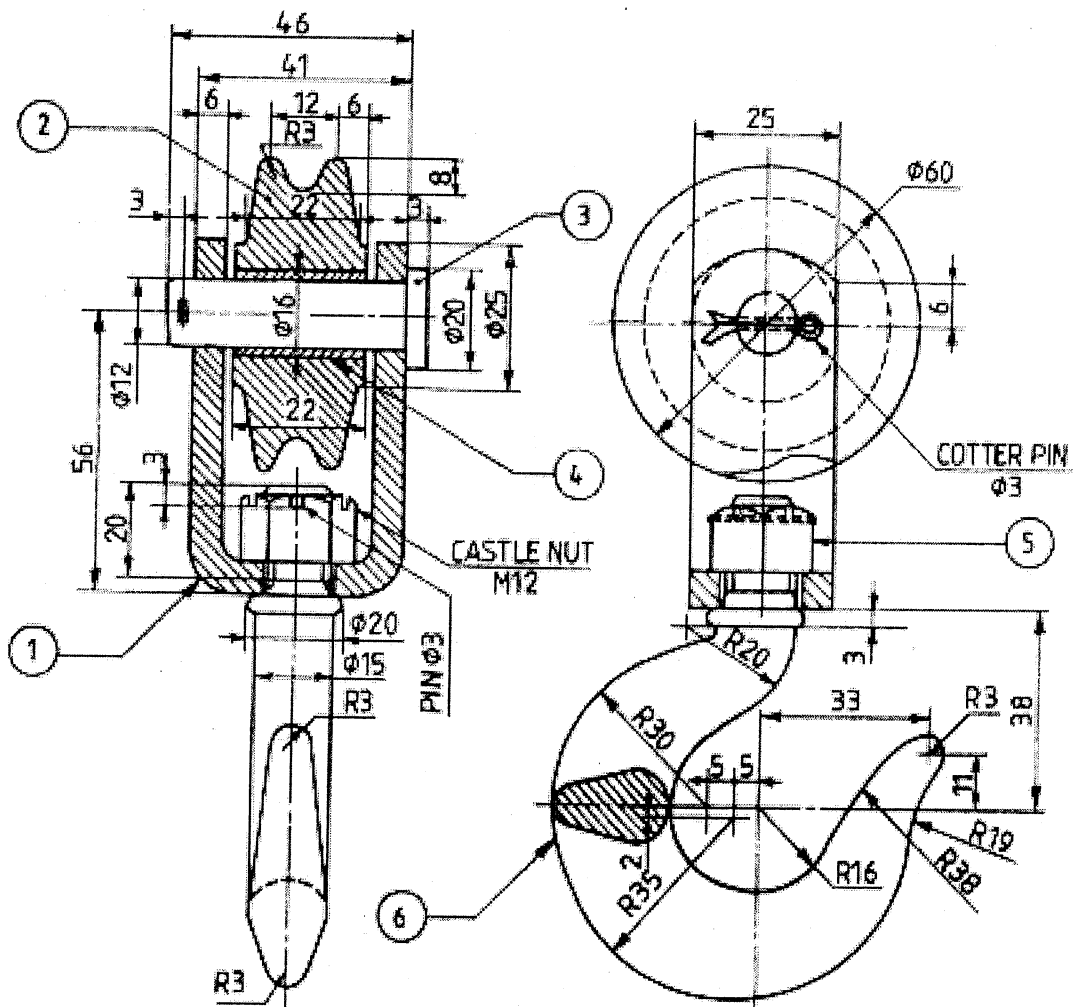


Fig.1

(b) Fig.2 shows two views of assembly of Crane Hook. Draw the following:

- 1) Strap
 - i) Front View 02
 - ii) Side view 02
- 2) Pulley
 - i) Front view 02
 - ii) Side view 02



Parts List

Part No.	Qty.	Name	Matl.
1	1	Strap	HCS
2	1	Pulley	CI
3	1	Pin	MS
4	1	Bush	Bronze
5	1	Castle nut	MS
6	1	Hook	FS

Crane hook

Fig.2

- 5. Fig.3 shows detailed drawing of locomotive connecting rod end . Assemble all parts and draw the following views of assembly
 - i) Half sectional Front View 12
 - ii) Top view 08
- 6. Fig.4 shows detailed drawing of spring loaded relief valve. Assemble all parts and draw the following views of assembly
 - iii) Sectional Front View 12
 - iv) Top view 08

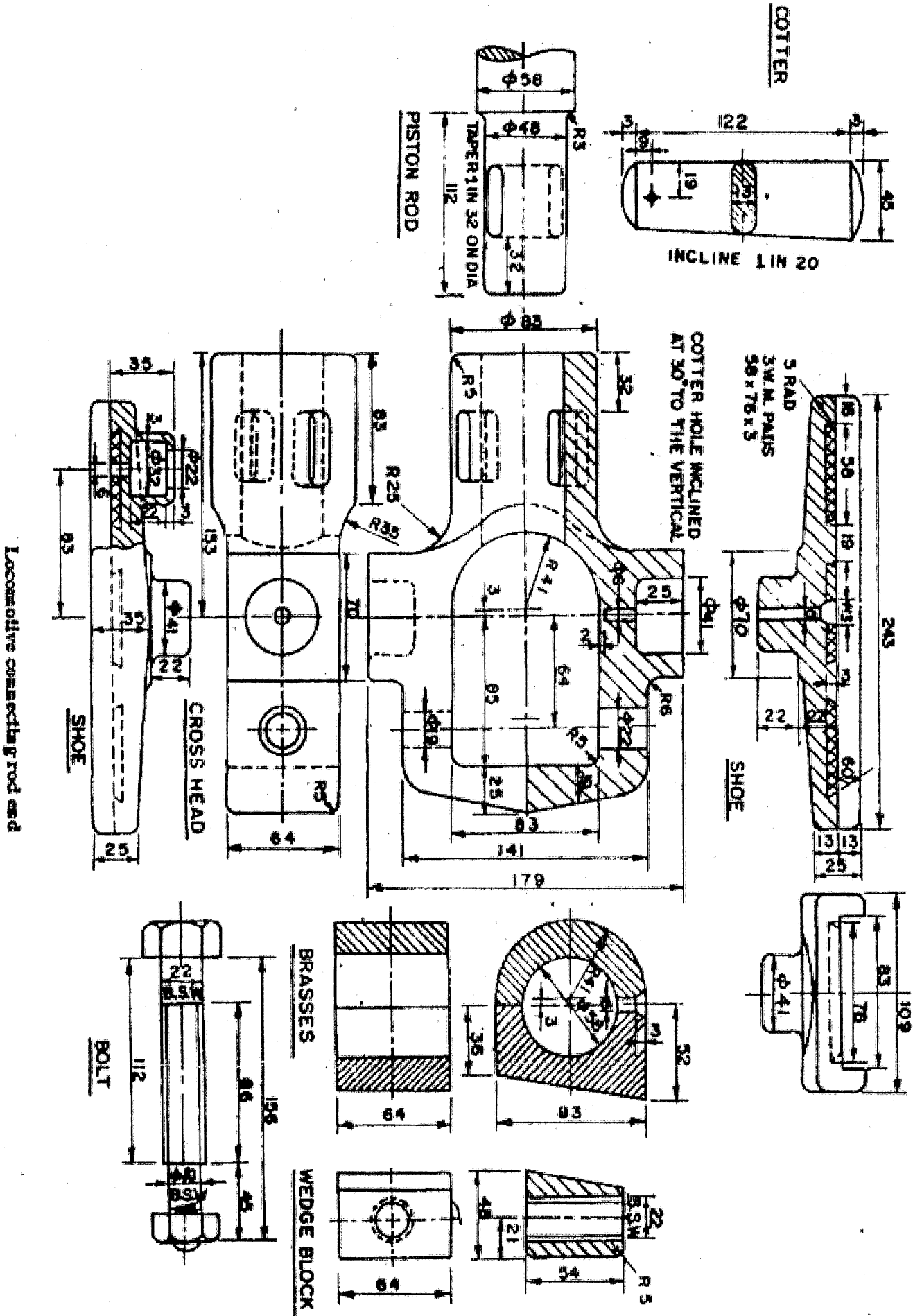


Fig.3

