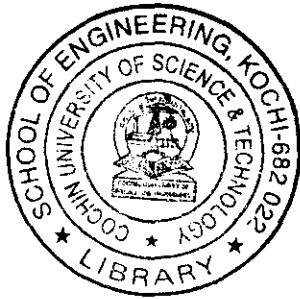
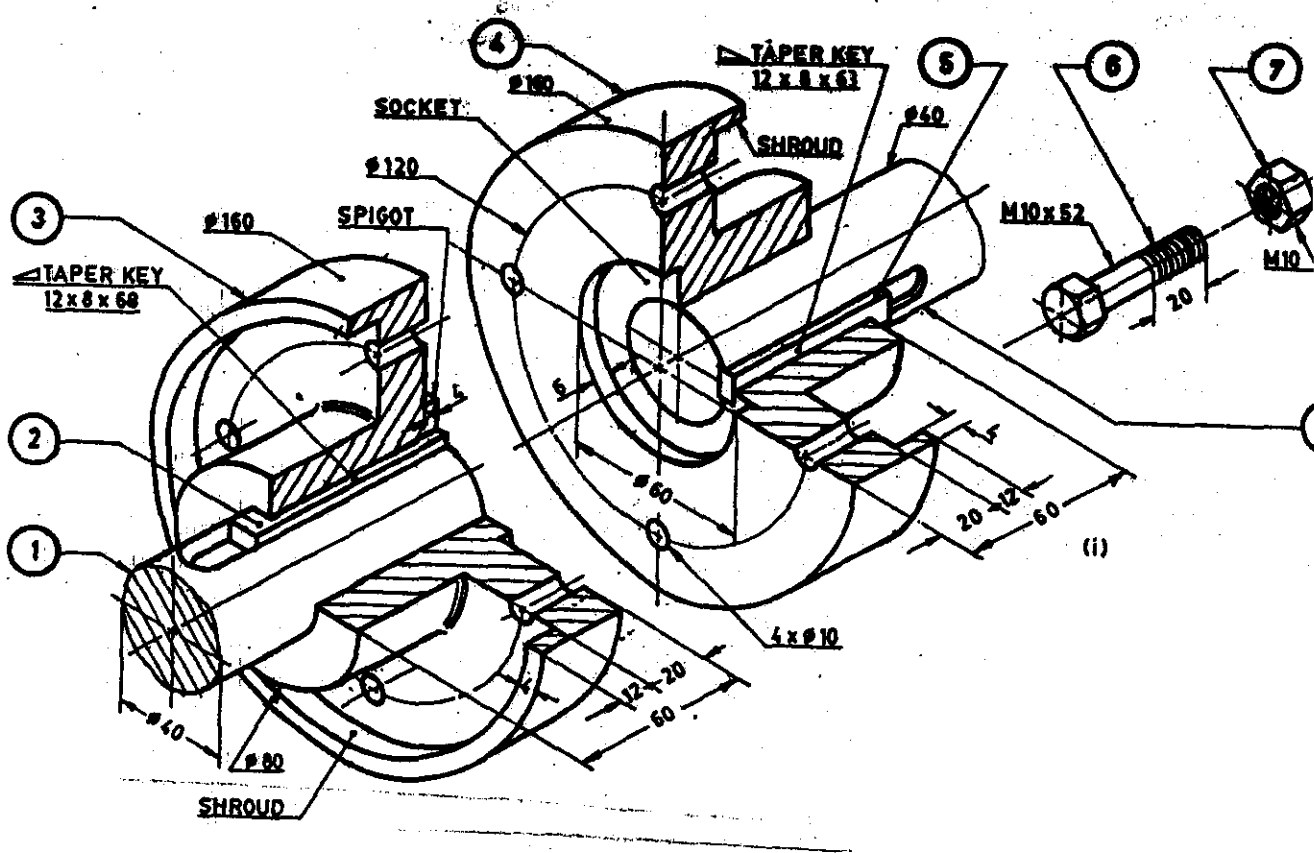


(b) Draw the half sectional front view and side view of a Flanged Coupling (protected type) as shown in the figure. (30)



ITEM LIST

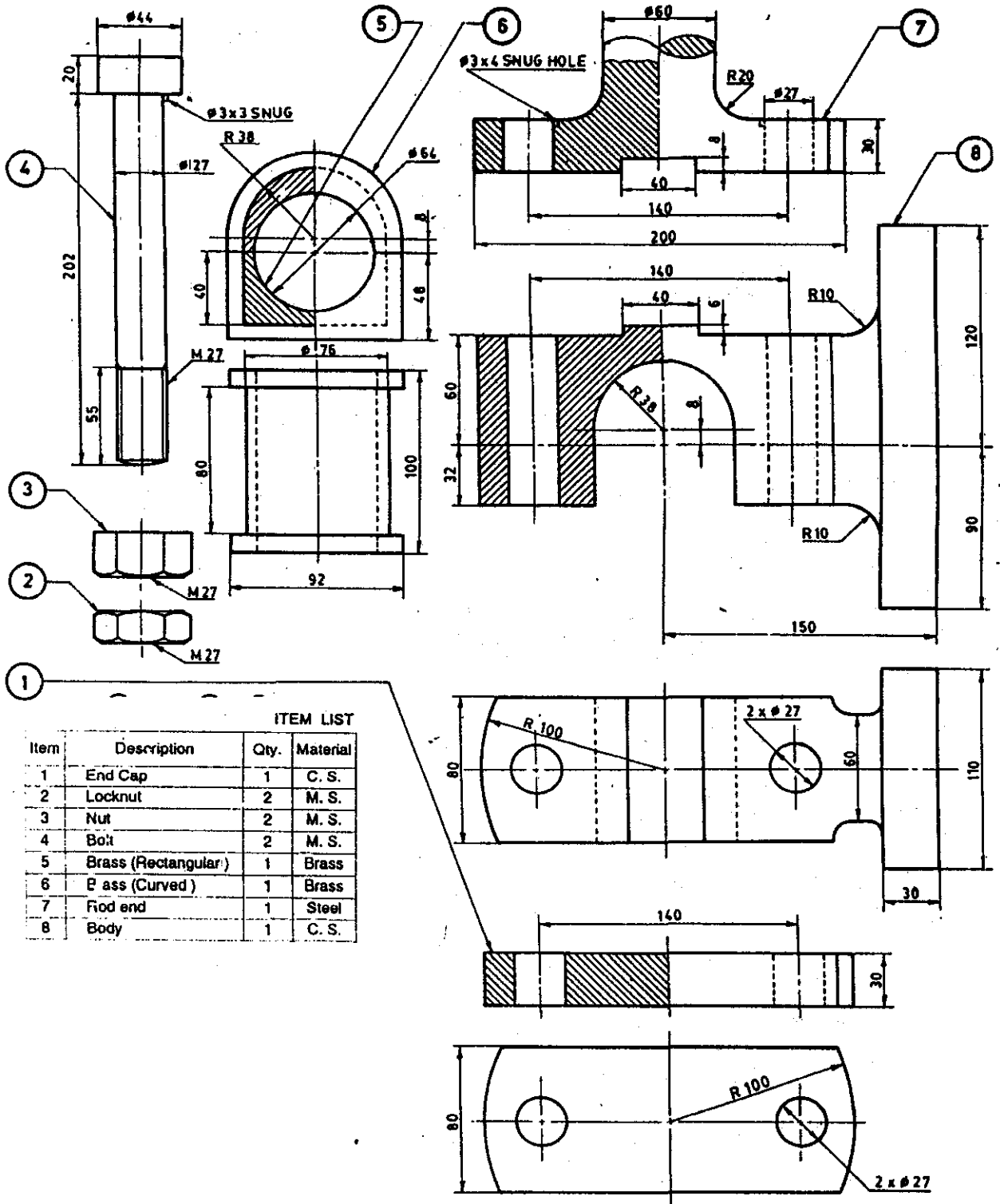
Item	Description	Qty.	Material
1	Shaft end	2	Steel
2	Key (Long)	1	M. S.
3	Flange (Male)	1	C. I.
4	Flange (Female)	1	C. I.
5	Key (Short)	1	M. S.
6	Bolt	4	M. S.
7	Nut	4	M. S.

(Contd.....3)

III. (a) Draw a full size scale the following views of Cross head as shown in the figure. With all parts assembled together

- (i) Left half Sectional Elevation
- (ii) Any one of the end views.

(40)



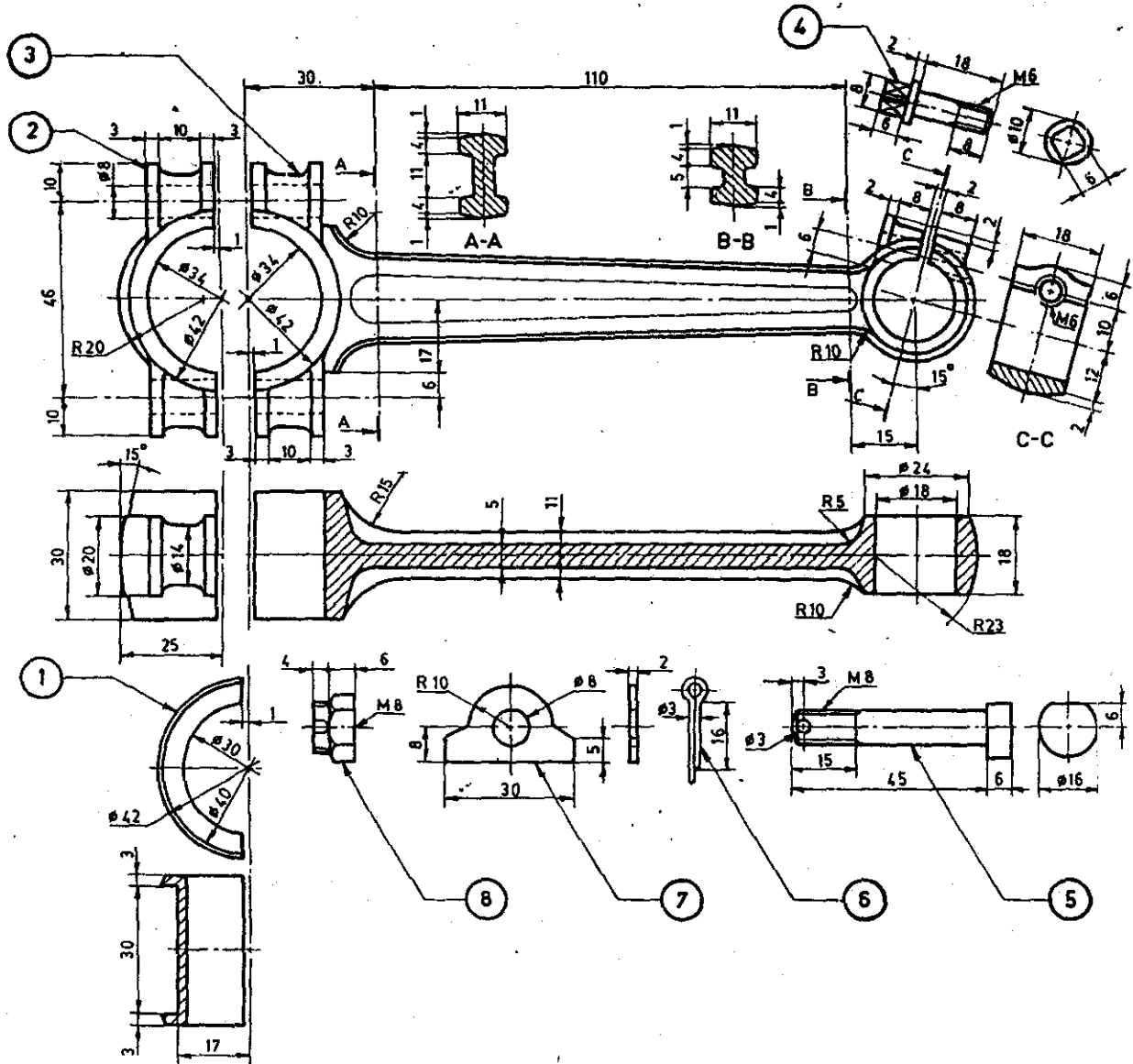
ITEM LIST			
Item	Description	Qty.	Material
1	End Cap	1	C. S.
2	Locknut	2	M. S.
3	Nut	2	M. S.
4	Bolt	2	M. S.
5	Brass (Rectangular)	1	Brass
6	Brass (Curved)	1	Brass
7	Rod end	1	Steel
8	Body	1	C. S.

CROSS HEAD
(VERTICAL - TYPE 1)

(Contd.....4)

- (b) Details of an I.C Engine connecting rod (type 2) are shown in the figure. Draw the following assembled views showing all dimensions.
- (i) Elevation top half in section
 - (ii) Top view

(40)



ITEM LIST

Item	Description	Qty.	Material
1	Big end bush (Half)	2	Bronze
2	Cap	1	Duralumin
3	Body	1	Duralumin
4	Set screw	1	Steel
5	Bolt	2	Steel
6	Split pin	2	M.S.
7	Shim	2	Bronze
8	Castle nut	2	Steel

I.C. ENGINE CONNECTING ROD
(TYPE - 2)

