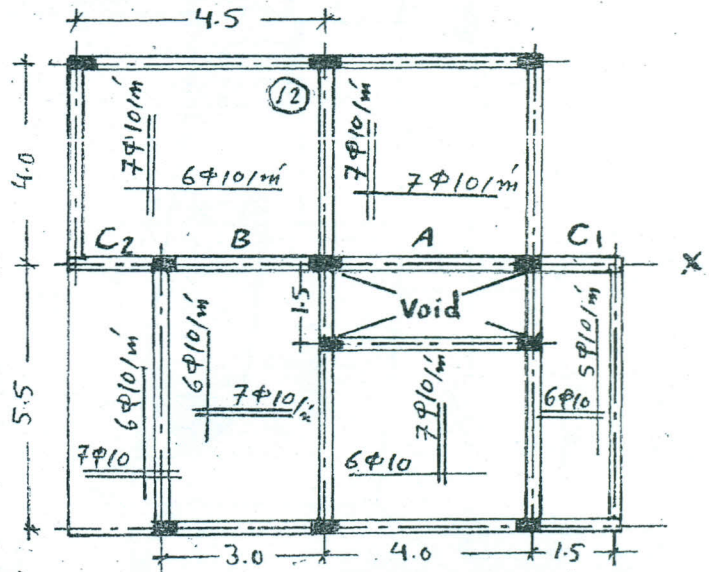


Solve the following questions (1 and 4) and (2 OR 3)

Problem number (1) (20 Marks)

The given is a plan of a roof, draw to scale 1:50 the necessary details of slab reinforcement.

Beam No.	Section	Lower steel		upper steel		stirrups
		str.	bent	str.	bent	
A	25X60	4Φ13	2Φ13	2Φ10	-	6Φ8/m
B	25X60	4Φ13	2Φ13	2Φ10	-	6Φ8/m
C ₁	25X60	2Φ13	-	2Φ13	2Φ16	7Φ8/m
C ₂	25X60	2Φ13	-	2Φ13	2Φ16	7Φ8/m



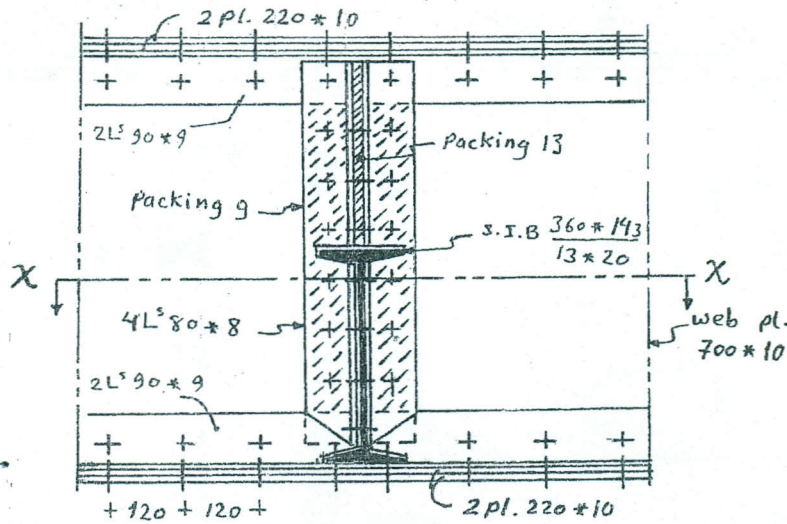
Problem number (2) (20 Marks)

For the above roof, draw to scale 1:25 the necessary reinforcement details of section X-X

Problem number (3) (20 Marks)

The given is an elevation of a connection between S.I.B and built-up beam, draw to scale 1:5 the followings:

- a) The given elevation) (10 Marks)
- b) Section Plan through X-X) (10 Marks)



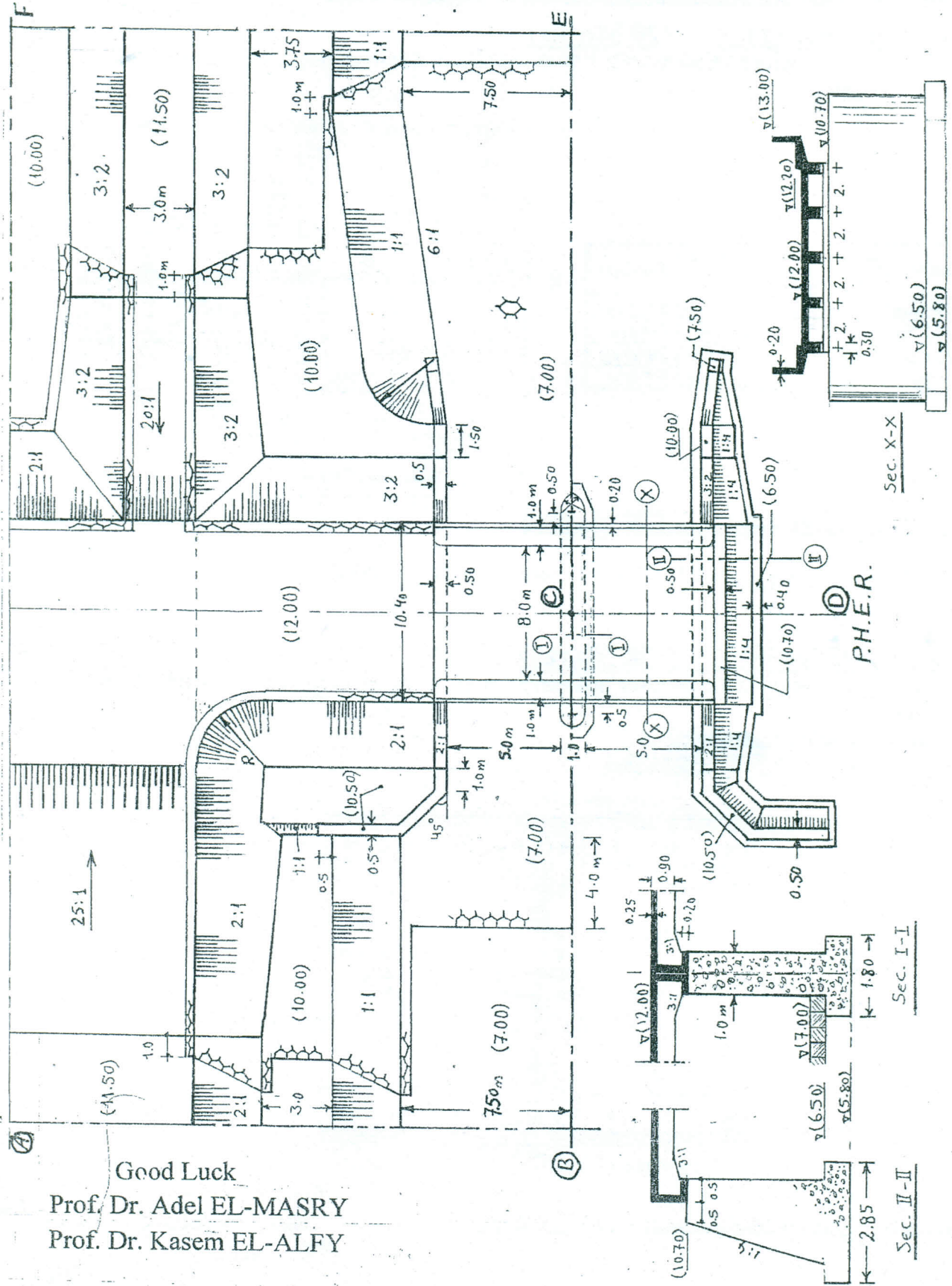
ELEVATION

Dims. in mm

Problem number (4) (60 Marks)

The given is a plan H.E.R of a R.C bridge, draw to scale 1:100

- a) The given plan (30 Marks),
- b) Section Elevation through the lower vent (15 Marks),
- c) Half section Side view (A-B-C-D) (15 Marks)



Good Luck
 Prof. Dr. Adel EL-MASRY
 Prof. Dr. Kasem EL-ALFY