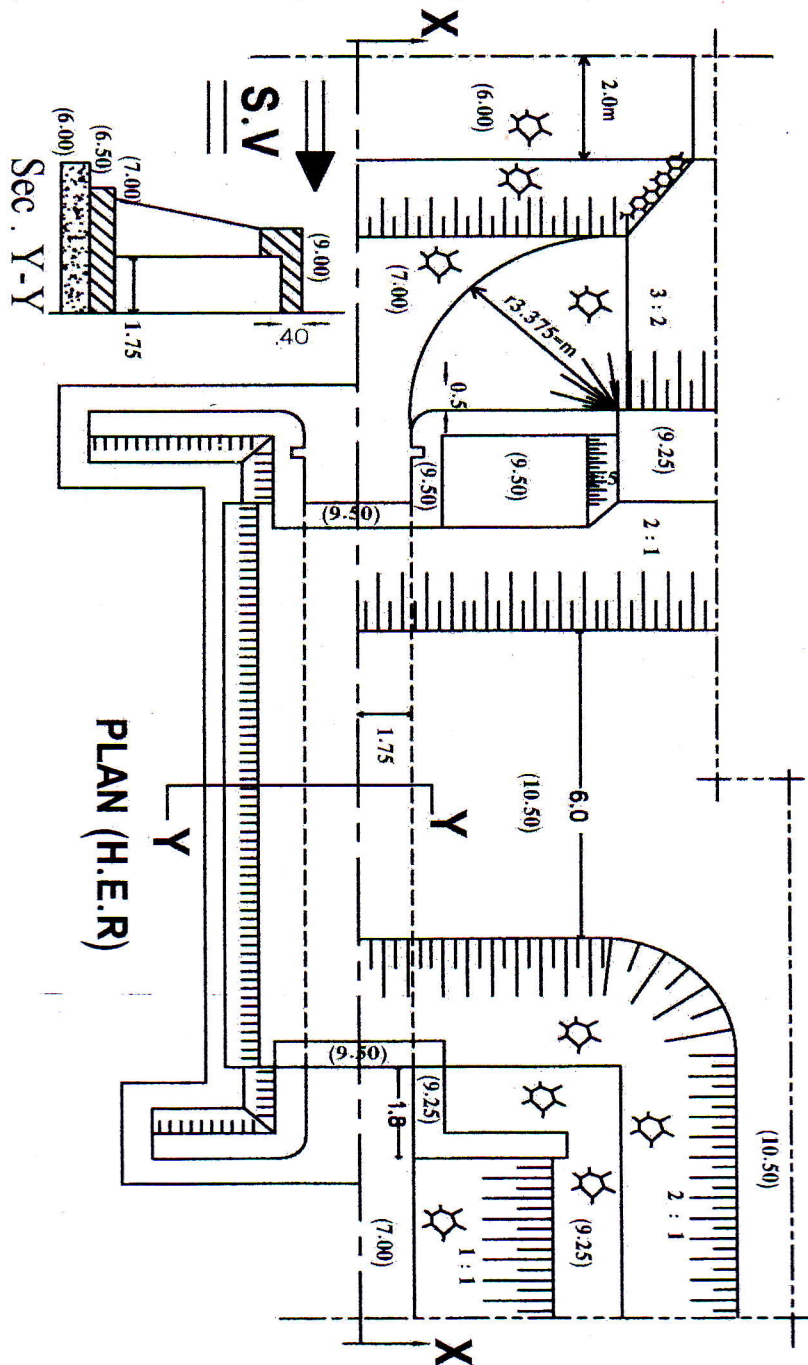


Remarks: No. of pages: 2      No. of questions: 3  
 Allowed Tables and Charts: (--)      Answer all the following Questions [120 Marks]  
Any missing data can be reasonably assumed

**Question (1) [60 Marks]**

1. Give clear description of the following structure. (5 Marks)
2. It is required to draw to scale of 1 :100 the following:
  - a) Plan H.E.R. (10 Marks)
  - b) SEC Elevation X – X. (25 Marks)
  - c) Side View (at the shown direction). (20 Marks)



**Question (2) [30 Marks]**

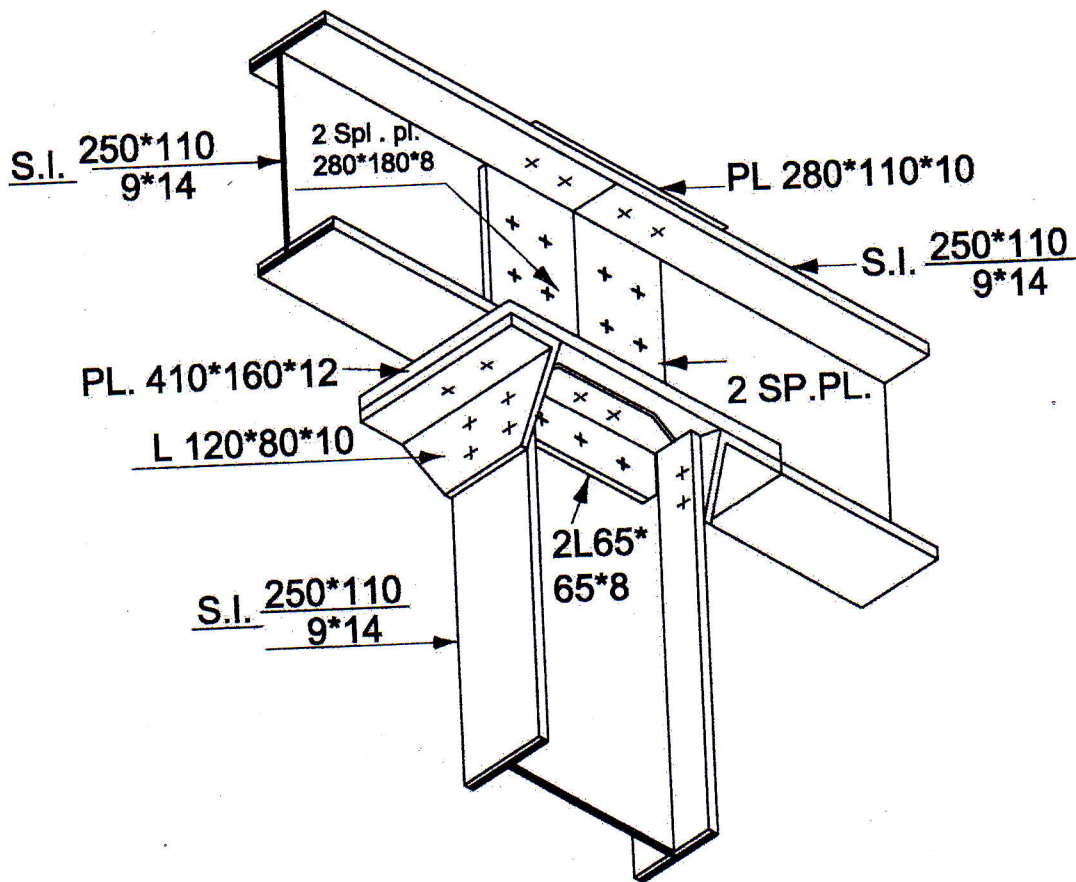
1. It is required to draw a **longitudinal section and a cross section** of circular column, which has radius of 30 cm with reinforcement 18 bars with 16 mm diameter with 6 stirrups with diameter 8 mm. **(5 Marks)**
2. It is required to draw a **longitudinal and cross sections** of unequal spans continuous beam with three spans equal 6, 5, and 7 m. the cross sections are 25\*60 with reinforcement 6 straight bars with 16 mm diameter and 4 bent bars with 18 mm diameter and 4 upper bars (stirrup hunger) with 12 mm diameter the slab thickness 14 cm. **(15 Marks)**
3. It is required to draw a plan and a cross section of a footing which has section 1.7\*2.30\*0.70 with reinforcement 7 bars with 16 mm diameter in one meter at the main direction and 6 bars with 12 mm diameter in one meter in the other direction. **(10 Marks)**

**Question (2) [30 Marks]**

**Question (3) [30 Marks]**

For the following figure it is required to draw :-

1. Plan (10 Marks)
2. ELE (10 Marks)
3. S.V (10 Marks)



Question no.	1.1	1.2.a,b,c	2.1,2,3	3.1,2,3
ILO's	a.11.12	b.4.1, b.14.1 and c.15.1	b.4.2	b.4.2