M.Tech. (Structural Engineering & Construction) Sem II

STC205B - Advance Design of Steel Structures

P. Pages : 1 **GUG/W/16/3968**

Time : Three Hours * 3 6 5 0 * Max. Marks : 70

Notes : 1. All questions are compulsory.
2. Assume suitable data wherever necessary.
3. I.S.I Hand Book for structural steel section, I.S. Code 8000/1962 or 1964, I.S. 456 (Revised), I.S. 875 may be consulted.

1. Design a gantry girder for following data **35**

Width of bay	=	4m c/c
Spacing of columns along bridge	=	10m
Self Wt of crane girder and trolley	=	300 KN
Min. Hook approach	=	1.5m
Dia. Of crane wheels	=	150mm
Self Wt. Of rails	=	0.35 KN/m
Wheel base	=	2.5m
Max. Weight to moved	=	20KN
Steel grade	=	Fe410 (fy=250 MPa)

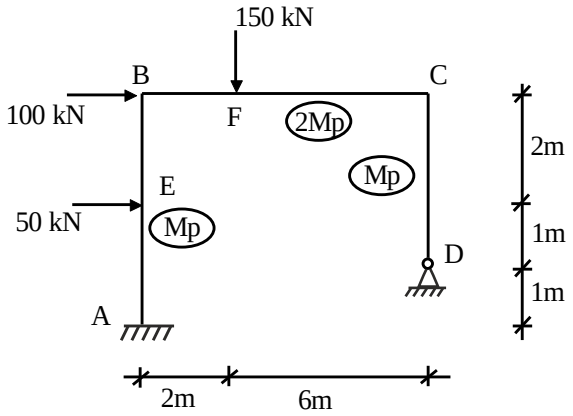
OR

2. Design a steel chimney 40 m in height located at Chandrapur area. SBC of Soil is 200KN/m^2. Diameter of cylindrical part is 4m **35**
Steel grade = Fe410 (fy=250 MPa)
Sketch structural details

3. Design a plate girder having 25 m simply supp. Span to carry moving udl of int. 12 KN/m of 3m length **35**
Steel grade = Fe410 (fy = 250 MPa)
Sketch structural details.

OR

4. a) Find plastic BMD for the frame shown in following figure. **18**



b) Design a pressed steel tank resting on ground for 2 lac liters capacity of water. **17**

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