CEL332 Steel Structures 6/5/2010 Total 70

Answer the first four questions first in the open book answer book to receive the note required for open book exam.

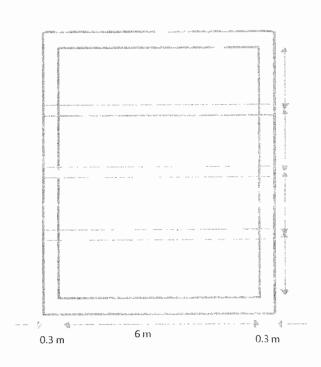
്വാഗ -Open Book Part

1	Explain the concept of Plastic hinge used a Beam fixed at both end	5
2	I-section beam at a point has Shear Stress V. Show the stress-distribution along the section	5
3	Explain the role of vertical stiffeners and horizontal stiffeners. Where are the horizontal	
	stiffeners generally placed.	5
4	Explain the concept of web buckling	5

Open Closed Book Part

- A Roof of a hall measuring 6m x 12 m consists of 100 to thick RCC slab (25 kN/m³) supported of Steel I beams spaced 3 m apart as shown in the figure. The finishing load may be taken as 1.5 kN/m² and live load as 1.5 kN/m². Design the steel beam.
- a) An ISBM 450 Beam transmits an end reaction of 220 KN to the web of a column ISHB 300. Design and sketch a stiffened seated connection. Use M24 black bolts.

 b) Check the section for web buckling and web crippling for the beam.
- 7 Design a welded plate girder of span 30 m to carry on superimposed load of 35 kN/m. 20



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