BT-6/M-20 **36148**

DESIGN OF STEEL STRUCTURE-II
Paper–CE-302 N

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *five* questions in all, selecing at least *one* question from each unit. All questions are of equal marks. Use of IS 800 : 2007, IS 875 and steel tables are allowed.

UNIT–I

1. (a) Define shape factor. Calculate shape factor for Hollow section.

(b) Explain Plastic hinge. Drive an expression for plastic moment (Mp).

2. Explain mechanisms. Drive expression of mechanism of simply supported beam length (L) carring point load (W) at a distance of L/3 from left support.

UNIT–II

3. Design an circular water tank (elevated) of 250 KL capacity.

4. Design a self supporting steel stack of 60 m height. The Dia. of cylinder part is 3 m thickness of lining 100 mm. Assume uniform compression and tensile stresses as 90 and 120 N/mm^2.

UNIT–III

5. Explain different types of Tower and discuss various loads to be considered for design of towers.

6. Briefly discuss types of cold formed sections with diagrams.

UNIT–IV

7. Explain the different components of roof truss with diagrams.

8. Design a purlin supporting G.I. sheet of an industrial building having span 15 m and length 45 m. The D.L. = 0.25 kN/m ^{2} L.L. = 0.75 kN/m ^{2}. Use rise 5 m and spacing suitably.

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