



Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, November 2015  
(2008 Scheme)**

**08.802 : DESIGN AND DRAWING OF STEEL STRUCTURES (C)**

Time: 4 Hours

Max. Marks: 100

**Instructions :** Answer *all* questions from Part – A and *two* questions from Part – B. Assume suitable data *wherever* necessary. Use of steel tables, IS 800, IS 875 (1, 2 and 3), IS 801, IS 804, IS 806, IS 1161, IS 6533(2) are **permitted**.

PART – A

(2×10)

1. Design a purlin for a truss of effective span 6m. Given live load – 3 kN/m<sup>2</sup>, dead load – 1.5 kN/m<sup>2</sup>, wind load – 1.5 kN/m<sup>2</sup> acting away from the truss. Spacing of the truss – 4m. 10
2. Explain different types of bearings with neat sketch. 10

PART – B

(2×40)

3. a) Design a square pressed steel tank for a capacity of 1,30,000 litres. It is supported on 4 columns of height 10 m. Design the supporting beams also. SBC is 200 kN/m<sup>2</sup>. 20
- b) Draw to a suitable scale : 20
  - i) The elevation and plan of the above designed tank
  - ii) The connection details of the plates.

OR

4. a) Design a tubular truss for a span of 10m using GI sheets. Trusses are provided at 4 m spacing. Wind pressure as per IS 875, place – Kerala. 20
- b) Prepare suitable sketch for the above designed truss with details at the joints. 20

P.T.O.





5. a) Design a bolted plate girder for a BG main railway track for an effective span of 20 m. Design the curtailment of flange plate and also stiffeners. 20
- b) Draw to a suitable scale the longitudinal section, cross section and plan of the above designed bridge. 20

OR

6. a) Design a self supporting steel stack for a height of 80 m and diameter 4 m. The thickness of brick lining – 100 mm and wind pressure –  $1.5 \text{ kN/m}^2$ . 20
- b) Draw to suitable scale : 20
- i) The sectional elevation
  - ii) The foundation details.