

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

**STRUCTURAL DESIGN - II**

[Time : 3 hours

(Maximum marks : 100)

[Note :- Use of IS-800-2007, IS-1905, IS-875 and Steel table are permitted.]

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. List any two physical properties of steel.
2. List any two advantages of welded joints.
3. Define 'compression member'.
4. Define 'laterally supported beam'.
5. Define 'Slenderness ratio' of a masonry wall.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Write any six advantages of steel structures.
2. Calculate the safe load transmitted by a shop welded joint, if the size of weld is 5 mm and its length is 250 mm, the ultimate shear stress of the weld is 410 MPa.
3. Determine the strength due to yielding of gross section of ISA 100 × 65 × 10mm and  $f_y = 250$  Mpa.
4. With neat figure write short notes for the use of lacing and battening.
5. Write short notes on classification of sections based on plastic analysis.
6. Calculate the live load on the roof truss if the angle of pitch is 18 degree.
7. Write short notes on :

- (a) Cavity wall      (b) Faced wall      (c) Veneered wall

(5 × 6 = 30)