

8. Design a purlin for a roof having a slope of  $26^\circ$  with the horizontal. The trusses are spaced at 4 m c/c. The purlin carries dead load of 4.0 kN/m and wind load 1.5 kN/m normal to the roof surface. 15

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**G-142**

**B. Tech. EXAMINATION, Dec. 2017**

(Seventh Semester)

(B. Scheme) (Main & Re-appear)

(CE)

CE-403-B

DESIGN OF STEEL STRUCTURES-II

*Time : 4 Hours]*

*[Maximum Marks : 75*

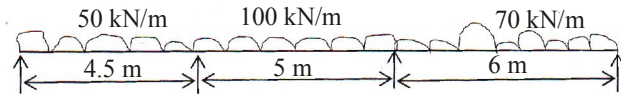
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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

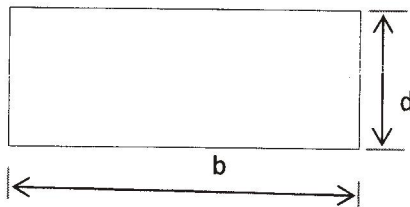
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**Note :** Attempt any *Five* questions. All questions carry equal marks. Assume any data if missing in the question paper. Use of 800, IS 6533 : 1989 and IS 801 is allowed.

1. Design a continuous beam ABCD of uniform section. Take  $\sigma_y = 250 \text{ N/mm}^2$ . **15**



2. Determine the shape factor for the following sections : **15**



3. Design for Delhi a self-supporting steel stack of height 40 m above the foundation. The diameter of the cylindrical part of the chimney is 2 m. The foundation has to rest on medium type of soil having bearing capacity  $150 \text{ kN/m}^2$ . The topography at the site is flat and location is of terrain category 2. Design any chimney along with foundation. **15**

4. Define light gauges section along with their uses in the industry. Draw different types to cold formed sections. **15**

5. Define light gauges section along with their uses in the industry and clean sketch's. Explain the analysis and design steps of transmission line towers. What are the forces that act on the transission line towers ? **15**

6. Design an overhead rectangular tank of 80,000 litre capacity. The height of the columns of staging is 12 m. Take wind pressure of  $1.5 \text{ kN/m}^2$ . **15**

7. Design a roof truss as shown in figure below : **15**

