

Printed Pages : 2



AR803

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 181803

Roll No.

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B. Arch.

(SEM. VIII) THEORY EXAMINATION, 2014-15
ARCHITECTURAL STRUCTURES - VIII

Time : 3 Hours]

[Total Marks : 50

- Note :**
- (1) Attempt any **five** questions.
 - (2) All questions carry **equal** marks.
 - (3) IS code is allowed.
 - (4) Assume any missing data.
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- 1 (a) Define all design parameters in rivetting with diagrams.
(b) Discuss advantages/disadvantages in revetting vs welding.

 - 2 (a) Define the assumptions made in rivetting.
(b) Define and draw various types of welding and welding design parameter.

 - 3 Design a splice for tension member section plates 160×10 mm and 250×14 mm. The member is subjected to a pull of $P = 200$ kN, $f_y = 250$ N/mm². Use 4 mm packing.

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[Contd...

- 4 (a) Draw various built up section of compression members, using angles, plates and channels sections.
- (b) Define the following in rivetting :
- (i) Gauge
 - (ii) Pitch
 - (iii) Gross diameter
 - (iv) Chain rivetting
 - (v) Zig-Zag rivetting.
- 5 What is Grillage Foundation and where it is used ? Draw plan and elevation and draw B.M. diagram it is base.
- 6 Calculate the value of least radius of gyration for a compound column ISHB 250 @ 547 N/m with one cover plate 300 mm × 20 mm on each flange.
For ISHB 250
 $I_{xx} = 7983.9 \times 10^4 \text{ mm}^4$, $A = 18971.0 \text{ mm}^2$
 $I_{yy} = 2011.7 \times 10^4 \text{ mm}^4$
- 7 A sample of soil weighing 30.6 kg had a $V = 0.0190 \text{ m}^3$ when dried in oven, it is reduced to 26.9 kg. Sp. gravity = 2.7. Calculate :
- (i) Bulk density
 - (ii) Dry. density void ratio
 - (iii) Porosity
 - (iv) Moisture content
 - (v) Degree of saturation.