

## Unit 10 - Week 8

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## Assignment 8

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

Due on 2019-09-25, 23:59 IST.

1) What is the maximum allowable slenderness ratio of lacing bars in built-up columns?

1 point

- a. 200  
b. 180  
c. 145  
d. 110

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
c.

2) The thickness of the lacing bar for double lacing should not be less than:

1 point

- a.  $1/30^{\text{th}}$  of effective length of the lacing bar  
b.  $1/40^{\text{th}}$  of effective length of the lacing bar  
c.  $1/50^{\text{th}}$  of effective length of the lacing bar  
d.  $1/60^{\text{th}}$  of effective length of the lacing bar

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
d.

3) In single lacing system the angle of inclination of lacing bar to the axis of the member should be in the range of:

1 point

- a.  $5^{\circ}$  to  $15^{\circ}$   
b.  $15^{\circ}$  to  $40^{\circ}$   
c.  $40^{\circ}$  to  $70^{\circ}$   
d.  $70^{\circ}$  to  $105^{\circ}$

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
c.

4) Battens provided for a compression member shall be designed to carry a transverse shear equal to:

1 point

- a. 2.5% of axial force in the member  
b. 5% of axial force in the member  
c. 10% of axial force in the member  
d. 15% of axial force in the member

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
a.

5) Thickness of batten plates shall be:

1 point

- a. not less than  $1/50^{\text{th}}$  of distance between innermost connecting transverse bolts/rivets  
b. less than  $1/50^{\text{th}}$  of distance between innermost connecting transverse bolts/rivets  
c. less than  $1/60^{\text{th}}$  of distance between innermost connecting transverse bolts/rivets  
d. less than  $1/80^{\text{th}}$  of distance between innermost connecting transverse bolts/rivets

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
a.

6) In a laced column 20 mm diameter bolts are used for the connection. In that case, the minimum width of the lacing flat should be:

2 points

- a. 10 mm  
b. 20 mm  
c. 40 mm  
d. 60 mm

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
d.

7) A laced column 10 m long is carrying a factored axial load of 1000 kN. The column is restrained in position but not in direction at both the ends. Two ISMC 250 @298.2 N/m ( $r_{xx} = 99.4$  mm,  $r_{yy} = 23.8$  mm) are placed back-to-back in a distance such that slenderness ratio about both the direction becomes equal. The effective length of the laced column will be:

2 points

- a. 10 m  
b. 10.5 m  
c. 11.0 m  
d. 12.5 m

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
b.

8) A steel column in a multistoried building carries an axial load of 400 kN. It is built up of two ISMC 300 channels connected by lacing. The lacing carries a load of:

2 points

- a. 4 kN  
b. 10 kN  
c. 12 kN  
d. 15 kN

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
b.

9) Two ISMC 350 are placed back to back with a spacing of 190 mm and a single lacing system with an inclination of lacing bar of  $45^{\circ}$  is used. If the gauge length is 50 mm, the minimum radius of gyration of the lacing bar will be:

2 points

- a. 1.18 mm  
b. 1.54 mm  
c. 2.16 mm  
d. 2.96 mm

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
d.

10) Two ISMC 350 are placed back to back with a spacing of 200 mm and a single lacing system with an inclination of lacing bar of  $45^{\circ}$  is used. If the gauge length is 50 mm and the grade of steel is Fe 415, the design compressive stress of the lacing bar will be:

0 points

- a. 74.3 MPa  
b. 85.6 MPa  
c. 67.3 MPa  
d. 96.4 MPa

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
c.