

Unit 11 - Week 9

Course outline

How to access the portal

Week 0 Assignment 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

● Lecture 41: Design of Batten Plates using Bolt Connection

● Lecture 42: Design of Batten Plates using Weld Connection

○ Lecture 43: Design of Column Splices

● Lecture 44: Design of Column Splices due to Shear

● Lecture 45: Introduction to Flexural Member

● Week 9 : Lecture Material

○ Quiz : Assignment 9

○ Feedback for Week 9

Week 10

Week 11

Week 12

DOWNLOAD VIDEOS

Assignment Solution

Text Transcripts

Assignment 9

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

Due on 2019-10-02, 23:59 IST.

1) In a building, a beam on the outside perimeter of a floor, supporting the exterior walls, is called:

1 point

- a. Girt
- b. Rafter
- c. Lintel
- d. Spandrel beam

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
d

2) Joist is:

1 point

- a. used to carry roof loads in trusses
- b. a closely spaced beams supporting floors or roofs of building but not supporting the other beams.
- c. used to support stair steps.
- d. a roof beam usually supported by purlins.

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
b

3) Two ISMC 300 are placed back-to-back to make a battened column. If the distance between the innermost connecting welds for batten is 250 mm, the required thickness of the batten should be:

2 points

- a. 2 mm
- b. 3 mm
- c. 4 mm
- d. 5 mm

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
d

4) Two ISMC 350 ($h = 350$ mm, $b = 100$ mm) are placed back-to-back with a spacing of 200 mm. If batten plates are used to make the built-up column by bolted connection, then length of batten should be:

2 points

- a. 200 mm
- b. 300 mm
- c. 350 mm
- d. 400 mm

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
d

5) A batten column is carrying a factored load of 1000 kN. Two channel section are placed back to back with a spacing of 200 mm. Assume gauge length of 50 mm and number of parallel plane of batten as 2. If the spacing of battens, $C = 1200$ mm, longitudinal shear and moment on the batten are:

4 points

- a. 7.5 kN and 50 kN-m
- b. 50 kN and 7.5 kN-m
- c. 5.5 kN and 70 kN-m
- d. 70 kN and 5.5 kN-m

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
b

6) The cross-sectional area of the splice plate is calculated by:

1 point

- a. $c/s \text{ area} = \frac{P_{u1} + P_{u2}}{f_y}$
- b. $c/s \text{ area} = \frac{P_{u1} - P_{u2}}{f_y}$
- c. $c/s \text{ area} = \frac{P_{u1} \times P_{u2}}{f_y}$
- d. $c/s \text{ area} = \frac{P_{u1} / P_{u2}}{f_y}$

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
a

7) A column ISHB 300 @ 576.8 N/m is to support a factored load of 1080 kN. The column section is to be spliced at a height of 2.0 m. Steel of grade Fe 410 is used. Assume the thickness of the splice as 6 mm. Assume the ends of the column sections are to be machined for complete bearing. If 20 mm diameter bolts of grade 4.6 is used for the connection, number of bolts required:

5 points

- a. 3
- b. 6
- c. 9
- d. 12

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0

Accepted Answers:
b