

## Unit 8 - Week 6

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## Assignment 6

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

**Due on 2019-09-11, 23:59 IST.**

1) Gusset plates are designed to resist:

- Direct stress
- Flexural stress
- Shear stress
- All of the above

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

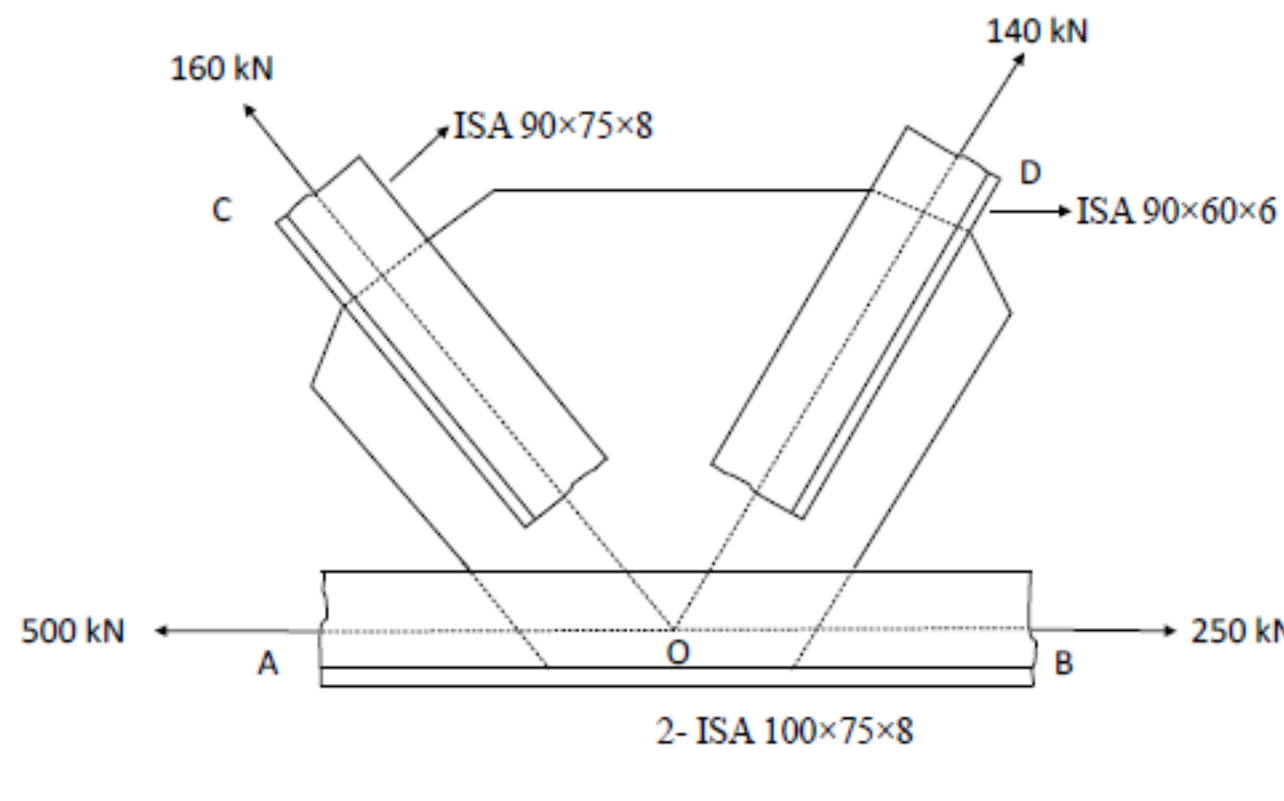
Score: 0

Accepted Answers:

d.

1 point

2) Calculate the number of M20, grade 4.6 bolts required for the connection of the member OC as shown below in the figure. Thickness of gusset plate = 12 mm, assume pitch and end distance 50 mm and 35 mm respectively:



- 3
- 5
- 4
- 6

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

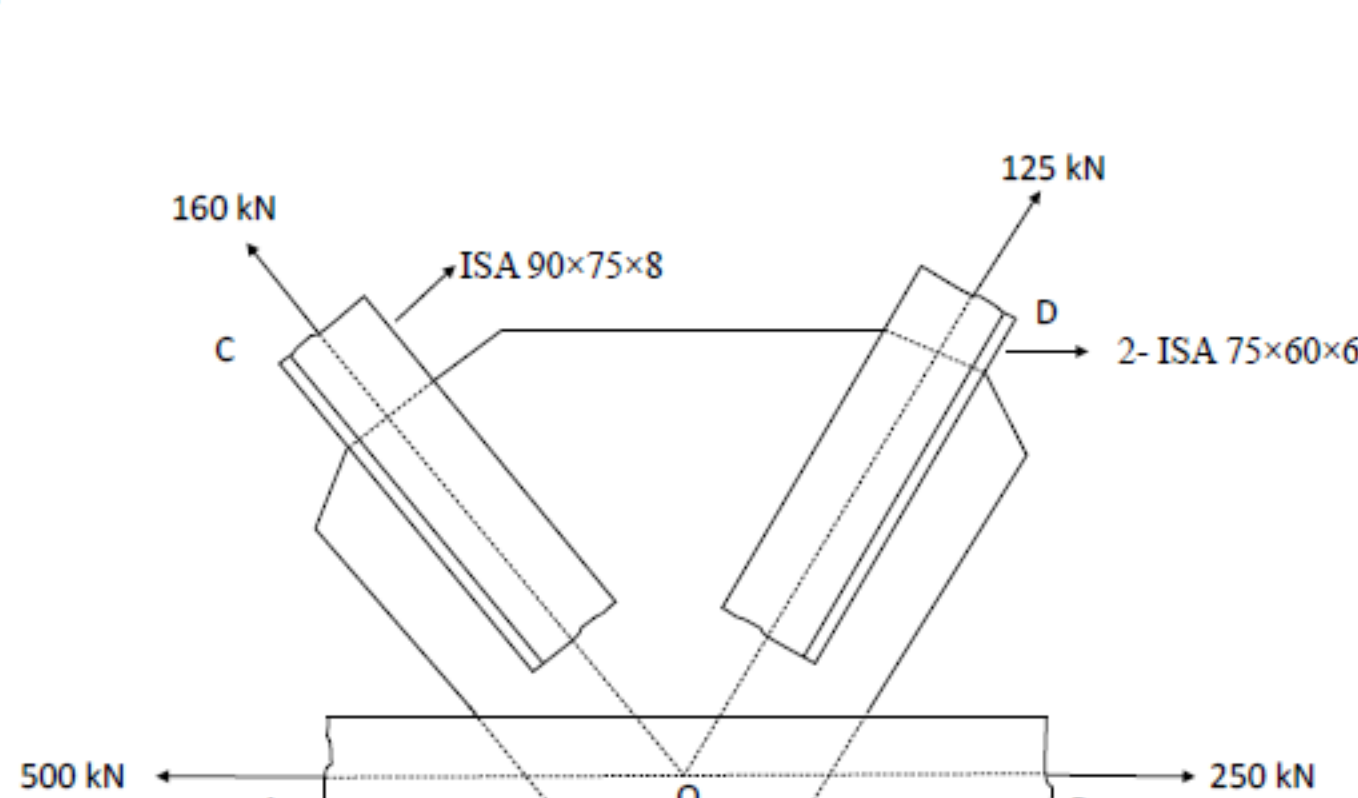
Score: 0

Accepted Answers:

c.

4 points

3) Calculate the length of the gusset plate required to connect the member OD with M16, grade 4.6 bolts. Thickness of gusset plate = 10 mm, assume pitch and end distance 40 mm and 30 mm respectively:



- 120 mm
- 140 mm
- 240 mm
- 160 mm

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

4 points

4) In case of angle sections, how much excess force, above the force in outstanding leg of the main angle, lug angles and their connection to gusset plate should capable to develop:

- 10%
- 30%
- 20%
- 40%

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

5) The compressive member in a roof truss or bracing is called:

- Stanchion
- Strut
- Boom
- Beam

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

1 point

6) For very short compression member:

- failure stress will be greater than yield stress
- failure stress will be less than yield stress
- failure stress will equal yield stress
- failure stress will be twice the yield stress

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

7) Effective length of compression member is:

- distance between ends of members
- distance between end point and midpoint of member
- distance between points of contraflexure
- distance between end point and centroid of member

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

8) The effective length of a structural steel compression member of length L effectively held in position and restrained against rotation at one end but neither held in position nor restrained against rotation at the other end, is:

- L
- 1.2L
- 1.5L
- 2L

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

1 point

9) The design compressive stress of an axially loaded compression member in IS: 800-2007 is given by:

- Rankine formula
- Secant formula
- Merchant Rankine formula
- Perry Robertson formula

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

1 point

10) The maximum slenderness ratio for a steel member carrying compressive loads resulting from dead loads and imposed loads is:

- 145
- 180
- 350
- 400

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

1 point

11) For hollow section (hot rolled) the following curve is used for buckling:

- Curve A
- Curve B
- Curve C
- Curve D

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

12) The imperfection factor ( $\alpha$ ) for buckling class 'c' as per IS 800:2007 is:

- 0.21
- 0.34
- 0.49
- 0.76

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

13) A compression member has a centre to centre length of 4.0 m. It is fixed at one end and hinged at the other end. The effective length of the column is:

- 4.0 m
- 3.2 m
- 2.8 m
- 2.0 m

- a.  
 b.  
 c.  
 d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

2 points