

Unit 4 - Week 2

Course outline

How to access the portal

Week 0 Assignment 0

Week 1

Week 2

- Lecture 6: Design of Ordinary Black Bolts
- Lecture 7: Worked out Examples on Design of Ordinary Black Bolts
- Lecture 8: Design of High Strength Friction Grip Bolts
- Lecture 9: Weld connection
- Lecture 10: Design of Fillet Welds
- Week 2: Lecture Material
- Quiz : Assignment 2
- Feedback for Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

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Assignment Solution

Text Transcripts

Assignment 2

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

Due on 2019-08-21, 23:59 IST.

- 1) Two plates of thickness 16 mm and 22 mm are connected with fillet weld. What should be the minimum size of weld? 1 point
- a. 6 mm
b. 2 mm
c. 3 mm
d. 4 mm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
a.
- 2) Two plates of thickness 20 mm and 22 mm are connected with fillet weld. What should be the maximum size of weld? 1 point
- a. 6 mm
b. 15 mm
c. 18.5 mm
d. 21.5 mm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
c.
- 3) What is the effective throat thickness of the fillet weld if the angle between two fusion faces is 103° ? (S = size of the weld) 1 point
- a. 0.25
b. 0.65
c. 0.45
d. 0.55
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
b.
- 4) What is the minimum size of effective throat thickness? 1 point
- a. 2 mm
b. 5 mm
c. 4 mm
d. 3 mm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
d.
- 5) The length of end return, provided at each end of longitudinal fillet weld, is: 1 point
- a. Twice the size of weld
b. Thrice the size of weld
c. Four time the size of weld
d. None of the above
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
a.
- 6) If the ultimate stress of the fillet weld is 400 MPa and the effective throat thickness is 4.5 mm then what is the strength of the weld in case of site welding? 2 points
- a. 284 N/mm
b. 400 N/mm
c. 589 N/mm
d. 693 N/mm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
d.
- 7) If the size of the weld is 6 mm and the angle between two fusion faces is 110° then what is the effective throat thickness? 2 points
- a. 2.3 mm
b. 3.3 mm
c. 3.5 mm
d. 4.5 mm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
b.
- 8) The net tensile area of bolt to be considered at the root of the threads is: (d = nominal diameter of the bolt) 1 point
- a. $\pi \times d^2/4$
b. $0.58 \times \pi \times d^2/4$
c. $0.78 \times \pi \times d^2/4$
d. $1.38 \times \pi \times d^2/4$
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
c.
- 9) As per IS 800: 2007, the partial safety factor for bolt is: 1 point
- a. 1.00
b. 1.10
c. 1.25
d. 1.50
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
c.
- 10) If the length of a long bolted joint is 350 mm and the nominal diameter of bolt is 16 mm then the reduction factor, β_{lj} is: 2 points
- a. 0.67
b. 0.97
c. 1.00
d. 1.97
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
b.
- 11) The nominal bearing strength of the bolt is given by $2.5k_b d t f_u$, where the maximum value of k_b can be taken as: 1 point
- a. 0.01
b. 0.1
c. 1.00
d. 10.00
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
c.
- 12) A 16 mm diameter bolt of grade 4.6 is in single shear. The shearing strength of bolt will be: (assume threads in the shear planes) 2 points
- a. 29 kN
b. 58 kN
c. 45 kN
d. 90 kN
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
a.
- 13) The design shear capacity of bolts carrying shear through a packing plate, should be decreased by a factor, β_{pk} if the thickness of packing plate is: 1 point
- a. less than 6 mm
b. 6 mm
c. greater than 6 mm
d. none of the above
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
c.
- 14) If the diameter of a bolt is 16 mm then minimum end distance in case of rolled edges will be 2 points
- a. 16 mm
b. 27 mm
c. 30.6 mm
d. 33 mm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
b.
- 15) In a connection if the strength of the joint is 200 kN and the strength of solid plate is 400 kN then the efficiency of the joint will be: 1 point
- a. 20%
b. 30%
c. 50%
d. Cannot be determined
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
Accepted Answers:
c.