Unit 12 - Week 10

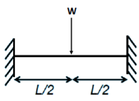
Week 10 Assignment 10

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

Due on 2019-10-09, 23:59 IST.

1) The maximum deflection in the beam (shown in figure) is: *1 point*

(E = Modulus of elasticity, I = Moment of inertia)



a. $WL^3/192EI$
b. $5WL^3/584EI$
c. $WL^3/48EI$
d. $WL^3/384EI$

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.

2) What is the effective length of a beam if compression flange partially restrained against lateral bending and partially free to rotate in plane at the bearings? *1 point*

(Span of the beam = L)

a. 0.65L
b. 0.8L
c. 0.85L
d. 0.9L

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

3) What is the shear area of a rectangular hollow section if it is loaded parallel to width? *1 point*

(b = width of I-section flanges, h = overall depth of the section, A = cross-section area)

a. Ab/(b+h)
b. Ah/(b+h)
c. A
d. None of the above

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.

4) What is the effective depth of the web in case of web buckling if it is not restrained against rotation and lateral deflection? *1 point*

(depth of web = d_1)

a. $d_1/5$
b. d_1
c. $2d_1$
d. None of the above

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

5) Design bending strength of a simply supported beam should be less than: *1 point*

a. $1.4Z_ef_y/\gamma_{m0}$
b. $1.2Z_ef_y/\gamma_{m0}$
c. Z_ef_y/γ_{m0}
d. $1.5Z_ef_y/\gamma_{m0}$

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.

6) A proposed cantilever beam supports a dead load of 18 kN/m and live load 10 kN/m. The length of the beam is 4.5 m. Which of the section from the following is the most suitable trial section? (load factor = 1.5) *4 points*

a. ISHB 350
b. ISHB 300
c. ISHB 400
d. ISHB 450

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d.

7) What is the design shear strength of ISHB 250 @ 54.7 kg/m? *2 points*

a. 188 kN
b. 460 kN
c. 289 kN
d. 921 kN

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

8) What is the web buckling strength of ISMB 250 @ 37.3 kg/m (assume bearing width 100 mm)? *5 points*

a. 123 kN
b. 157 kN
c. 194 kN
d. 236 kN

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d.

9) What is the web crippling strength of ISLB 250 @ 27.9 kg/m (assume bearing width 100 mm)? be: *3 points*

a. 310.2 kN
b. 212.1 kN
c. 110.9 kN
d. 450.3 kN

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.

10) What is the imperfection factor for lateral torsional buckling of beams for rolled steel sections? *1 point*

a. 0.20
b. 0.25
c. 0.21
d. 0.35

a. b. c. d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.