Assignment 9

The due date for submitting this assignment is passed.

As per our records, you have not submitted this assignment.

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

a. girder
b. floorbar
c. lintel
d. spandrel beam

Correct Answer: a.

2 points

If steel is to be used, the following factors should be taken into consideration:

a. avoidance of cold weather
b. a closely spaced beam supporting floors or roofs of building but not supporting the other beams

c. to use to support stair steps

d. a load beam usually supported by piers.

Correct Answer: d.

2 points

Two SMC 380 (5×300 mm, 6×300 mm) are placed back-to-back to make a flattened column. If the distance between the innermost connecting webs for batter is 200 mm, the required thickness of the batter should be:

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

Correct Answer: b.

2 points

Two SMC 280 (5×250 mm, 6×250 mm) are placed back-to-back with a spacing of 150 mm. If batter plates are used to make the bolts up column to bolted connection, then length of batter should be:

a. 250 mm
b. 300 mm
c. 350 mm
d. 400 mm

Correct Answer: a.

2 points

A batter column is carrying a calculated load of 1000 kN. Five channel sections are placed back-to-back with a spacing of 150 mm. Assume gauge length of 50 mm and number of parallel plates of batter at 2. If the spacing of battens, C = 300 mm, longitudinal shear and moment on the batter are:

a. 7.5 kN and 5.8 kN·m
b. 50 kN and 72 kN·m
c. 5.5 kN and 10.4 kN·m
d. 7.0 kN and 6.5 kN·m

Correct Answer: b.

4 points

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

a. \( \frac{A}{t} \) area = \( \frac{t}{12} \)
b. \( \frac{A}{t} \) area = \( \frac{t}{12} \)
c. \( \frac{A}{t} \) area = \( \frac{t}{6} \)
d. \( \frac{A}{t} \) area = \( \frac{t}{3} \)

Correct Answer: b.

5 points

A column SMC 380 (5×300 mm) is to support a calculated load of 1500 kN. The column member is to be spirally at a height of 2.5 m. Grade of steel is A450, used. Assume the thickness of the column is 6 mm. Assume the ends of the column are to be machined for complete bearing. If 20 mm diameter bolts of grade A4 is used for the connection, number of bolts required: