Assignment 3

The due date for submitting this assignment has passed. Due on 2019-09-18, 23:59 IST. As per our records you have not submitted this assignment.

1) The clear span of a deck slab bridge is 8.00m. The overall depth is 700mm and bar diameter used is 20mm. The clear cover to reinforcement is 40mm. The width of bearing is 400mm. The effective span of the beam will be

(a) 8.000m
(b) 8.650m
(c) 8.400m
(d) 8.700m

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

2)
The overall depth of a solid slab bridge is 700 mm and the thickness of wearing coat is 65 mm. The unit weight of concrete, \( \gamma_c = 25.00 \text{kN/m}^3 \) and the unit weight of wearing coat \( \gamma_{wc} = 22.00 \text{kN/m}^3 \). The total dead load of the slab is computed as

(a) 14.197 kN/m
(b) 18.930 kN/m
(c) 23.663 kN/m
(d) 28.395 kN/m

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

3) The dead load of a simply supported deck slab bridge of effective span 8.500 m is 20.000 kN/m². The bending moment due to dead load

(a) 90.312 kNm/m width
(b) 135.469 kNm/m width
(c) 180.625 kNm/m width
(d) 225.781 kNm/m width

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

4) The effective span of a simply supported solid slab bridge is 8.500 m. The dead load computed is 10.000 kN/m². The shear force due to dead load is

(a) 31.875 kN/m width
(b) 42.500 kN/m width
(c) 53.125 kN/m width
(d) 63.750 kN/m width

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

5) 1 point
The effective span of a solid slab bridge is 8.500m. The dispersed width of vehicle at top of concrete deck is 1000mm. For getting maximum bending moment, the effective width (for α = 2.000) is computed as
(a) 2.625m
(b) 3.938m
(c) 5.250m
(d) 6.562m

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

6) 1 point
The effective span of a solid slab bridge is 9.000m. The effective length of a vehicle is 4.000m and the load is 20.00 kN/m² width. The maximum bending moment is
(a) 70.000kNm/m width
(b) 105.000kNm/m width
(c) 140.000kNm/m width
(d) 175.000kNm/m width

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

7) 1 point
The effective span of a solid slab bridge is 9.000m. The effective length of a vehicle is 4.000m and the load is 20.000 kN/m. The maximum shear force is
(a) 46.667kN/m width
(b) 62.222kN/m width
(c) 77.778kN/m width
(d) 93.333kN/m width

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)
8) The deck slab having overall depth of 700mm is reinforced with 20mm dia bars. The clear cover is 40mm. The effective depth of slab is

(a) 700mm  
(b) 680mm  
(c) 660mm  
(d) 650mm

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

9) The overall depth of a solid slab bridge is 700mm and the clear cover is 40mm. The longitudinal reinforcements are provided by 20mm dia bars. The concrete grade is M30 ($\sigma_{cb} = 10.00 \text{ N/mm}^2$) and the steel grade is Fe415 ($\sigma_{st} = 200 \text{ N/mm}^2$). The modular ratio is 10.00. As per Working Stress Method followed in IRC, the balanced moment capacity of concrete is:

(a) 469.444 kNm/m width  
(b) 625.378 kNm/m width  
(c) 782.407 kNm/m width  
(d) 938.889 kNm/m width

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)
The overall depth of a solid slab bridge is 700mm and the clear cover is 40mm. The longitudinal reinforcements are provided by 20mm dia bars. The concrete grade is M30 \( (f_{cd} = 30.00 \text{ N/mm}^2) \) and the steel grade is Fe415 \( (f_y = 415 \text{ N/mm}^2) \). The modular ratio is 10.00. As per Working Stress Method followed in IRC, the tensile reinforcement in the balanced section is computed as:

(a) 2708.3 mm$^3$/m width
(b) 4062.5 mm$^3$/m width
(c) 5411.25 mm$^3$/m width
(d) 6770.8 mm$^3$/m width

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