Unit 12 - Week 10

Assignment 10

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

1. The figure shown depicts the mechanical damage observed near the expansion joint of a bridge. What are the factors to be considered before selecting the repair strategy?

   - Preventing the entry of soil or other debris into the joint spaces
   - Good corrosion resistance of the materials used for the joint
   - Good impact and fatigue resistance of the concrete repair materials
   - Draining water across the sidewalks and sidewalks

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Preventing the entry of soil or other debris into the joint spaces
   Good corrosion resistance of the materials used for the joint
   Good impact and fatigue resistance of the concrete repair materials
   Draining water across the sidewalks and sidewalks

2. Choose the correct statements about deck shear devices.

   - They transfer high vertical shear loads while allowing vertical movement at the joints
   - They transfer high vertical shear loads while allowing longitudinal movement at the joints
   - They transfer excessive stresses in the joints by restricting the independent movements
   - They prevent excessive stresses in the joints by allowing independent movements

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   They transfer high vertical shear loads while allowing vertical movement at the joints
   They transfer high vertical shear loads while allowing longitudinal movement at the joints
   They prevent excessive stresses in the joints by allowing independent movements

3. To relieve over-stressing of continuous beam elements due to thermal conditions, new expansion joints can be culminated at points of contraflexure/wherever zero moment.

   - True
   - False

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

4. As discussed in the lecture, what type of fluids can be used as injection greases for concrete repair applications?

   - Bingham fluids
   - Newtonian fluids
   - Non-Newtonian fluids
   - Shear-thinning fluids

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Bingham fluids
   Newtonian fluids
   Non-Newtonian fluids
   Shear-thinning fluids

5. You are asked to repair structural cracks (including hairline cracks) in a high-strength concrete beam of an industrial building to maintain its structural integrity. Which target properties of the injection grout would you consider for an effective filling and load transfer?

   - Low viscosity
   - High viscosity
   - High compressive strength
   - Low bond strength with concrete

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Low viscosity
   High compressive strength

6. Gradual failure could result in shorter redevigation length than sudden impact load failure.

   - True
   - False

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

7. Which is the preferred location to cut and remove the strands in prestressed beams/slabs?

   - Region, where shearing force is maximum
   - Region, where bending moment is maximum
   - Region, where bending moment is zero
   - Region, where bending moment is zero

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Region, where bending moment is zero