Civil Engineering Licensure Exam – Mock Exam (Day 26: Engineering Contracts and Specifications)

February 24, 2025

Instructions

- Time Limit: 60 Minutes
- Coverage: Engineering Contracts and Specifications
- Total Questions: 10 (Multiple Choice & Problem-Solving)
- Show complete solutions for problem-solving questions.

Section A: Multiple Choice Questions (MCQs)

Choose the best answer.

1. A contract in which the contractor is paid based on the actual cost of work plus a percentage of the cost as profit is called:
   (a) Lump-sum contract
   (b) Cost-plus contract
   (c) Unit price contract
   (d) Turnkey contract
2. The term "specifications" in engineering contracts refers to:
   (a) The financial terms of the contract
   (b) The detailed technical requirements of materials, workmanship, and execution

(c) The payment schedule for the contractor

(d) The timeline for contract completion

3. A bid bond is required in construction contracts to:

   (a) Ensure that the contractor submits a competitive price

   (b) Guarantee that the contractor will enter into the contract if awarded the project

   (c) Cover the project costs in case of failure

   (d) Provide long-term financing for the project

4. A performance bond is used in engineering contracts to:

   (a) Ensure that the contractor completes the project as per contract requirements

   (b) Secure funding for the contractor's bid

   (c) Pay for any project delays

   (d) Provide insurance for workers

5. The term "liquidated damages" in a contract refers to:

   (a) The penalty charged to the contractor for project delays

   (b) The cost of damages due to natural disasters

   (c) The total project cost estimated at contract signing

   (d) The payment made to subcontractors

Section B: Problem-Solving

1. A contractor signs a lump-sum contract for $500,000 to complete a bridge project in 180 days. If the project is delayed by 20 days and the contract specifies liquidated damages of $2,000 per day, determine the total penalty the contractor must pay.

2. A contractor submits a bid of $750,000 for a project, secured by a 5% bid bond. Determine the amount of the bid bond.

3. A construction project requires 1,000 cubic meters of concrete, with a unit price contract specifying $120 per cubic meter. Determine the total cost of the concrete work.

4. A project owner requires a 10% performance bond for a $2,500,000 contract. Determine the amount of the performance bond.

5. A contractor enters into a cost-plus contract with a fixed fee of 12