NCTI Progression Construction Coordinator I to II Practice Exam (Sample)

Study Guide



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Questions



- 1. How can project scope be effectively managed once it is established?
 - A. By avoiding any changes during the project
 - B. Through strict change control processes and regular reviews
 - C. By simplifying all project tasks
 - D. By transferring responsibilities to the client
- 2. When is a single straight splice connector appropriate for repairing a crack in aerial hardline coaxial cable?
 - A. When the crack is large
 - B. When the crack is small and in a straight section of cable
 - C. When water migration is significant
 - D. When multiple wires are involved
- 3. What is the primary purpose of a project change management plan?
 - A. To define project goals
 - B. To handle changes effectively
 - C. To communicate deadlines
 - D. To minimize project costs
- 4. What is the coaxial cable velocity of propagation (VoP)?
 - A. The speed that RF signals travel in a vacuum
 - B. The rate that RF signals travel through the coaxial cable
 - C. The total distance signals can travel without loss
 - D. The speed limit of signals over long distances
- 5. What role does documentation play during project execution?
 - A. It delays decision-making processes
 - B. It facilitates communication and accountability
 - C. It limits stakeholder involvement
 - D. It shortens the project timeline

- 6. What is a "punch list" in construction?
 - A. A list of suggested improvements for projects
 - B. A record of completed phases
 - C. A list of items that need corrections before finalization
 - D. A document outlining future project potential
- 7. What does the project lifecycle include in construction?
 - A. Only execution phase
 - **B.** From initiation to closure
 - C. Just planning and execution phases
 - D. Continuous improvement phases
- 8. What is the range of velocity of propagation (VOP) factors for broadband coaxial cables?
 - A. 0.60 to 0.75
 - B. 0.70 to 0.85
 - C. 0.78 to 0.93
 - D. 0.95 to 1.00
- 9. Why is it not necessary to measure the unregulated DC voltage on a line extender with a switching mode power supply (SMPS)?
 - A. An SMPS is less efficient
 - B. It provides wider DC voltage regulation
 - C. Measuring is inherently risky
 - D. It is often damaged in testing
- 10. What is the attenuation through 1,600-feet of 0.750 cable at 600 MHz and 120° F, given a 1.31 dB/100 feet rate at 68° F?
 - A. 21.31 dB
 - B. 22.05 dB
 - C. 23.31 dB
 - D. 20.50 dB

Answers



- 1. B 2. B
- 3. B

- 3. B 4. B 5. B 6. C 7. B 8. C 9. B 10. B



Explanations



- 1. How can project scope be effectively managed once it is established?
 - A. By avoiding any changes during the project
 - B. Through strict change control processes and regular reviews
 - C. By simplifying all project tasks
 - D. By transferring responsibilities to the client

Effectively managing project scope once established is crucial for the success of any project. The correct option emphasizes the importance of implementing strict change control processes and conducting regular reviews. This approach allows project managers and teams to monitor any changes that may arise during the project lifecycle closely and assess the impact of those changes on the overall scope, time, and budget. By having a structured change control process in place, teams can evaluate proposed changes, decide whether they align with project goals, and determine how to accommodate them without compromising the project's integrity. Regular reviews help keep all stakeholders informed and engaged, ensuring that everyone is aware of potential modifications and their implications. In contrast, avoiding changes altogether is not realistic in many projects, as some flexibility is often necessary to adapt to evolving circumstances. Simplifying all project tasks may overlook the complexity inherent in many projects, leading to important elements being omitted. Lastly, transferring responsibilities to the client can create confusion and may undermine the project's management, leading to gaps in accountability and oversight. Therefore, the structured approach of managing scope through change control and reviews is the most effective strategy.

- 2. When is a single straight splice connector appropriate for repairing a crack in aerial hardline coaxial cable?
 - A. When the crack is large
 - B. When the crack is small and in a straight section of cable
 - C. When water migration is significant
 - D. When multiple wires are involved

A single straight splice connector is most appropriately used for repairing a crack in aerial hardline coaxial cable when the crack is small and located in a straight section of cable. This is because single splice connectors are designed to create a seamless connection between two ends of the cable, ensuring that signals can continue to pass through without interruption or degradation. In the case of a small crack, a single splice connector can effectively bridge the gap without requiring extensive alteration to the cable itself. It's crucial that the cable section is straight because any curvature or bending could hinder the connector's performance or lead to further damage. This particular context allows for a clean, efficient repair that maintains the integrity of the coaxial cable's signal transmission capabilities. While larger cracks, significant water migration, or scenarios involving multiple wires would necessitate different repair methods or connectors to ensure robust and reliable functionality, a small crack in a straight section is ideal for this type of repair solution.

3. What is the primary purpose of a project change management plan?

- A. To define project goals
- **B.** To handle changes effectively
- C. To communicate deadlines
- D. To minimize project costs

The primary purpose of a project change management plan is to handle changes effectively. This plan provides a structured approach for managing modifications to the project scope, schedule, resources, or other critical elements that may arise during the lifecycle of the project. A well-crafted change management plan outlines the processes for identifying, documenting, assessing, and approving changes. This ensures that any alterations are handled systematically and transparently, which helps maintain project stability and reduces potential disruptions. By focusing on effective management of changes, the plan also facilitates clear communication among stakeholders about how changes will be addressed, thereby minimizing confusion and resistance. The other options can be related to aspects of project management but do not directly encompass the key function of a change management plan. Defining project goals is crucial for setting the direction of the project but does not address how to manage changes. Communicating deadlines is important for project schedule management, yet it is not specifically related to change management. Minimizing project costs can be a consequence of effective change management but is not the primary purpose of a change management plan. Instead, the plan is fundamentally about enabling an organized response to changes as they occur.

4. What is the coaxial cable velocity of propagation (VoP)?

- A. The speed that RF signals travel in a vacuum
- B. The rate that RF signals travel through the coaxial cable
- C. The total distance signals can travel without loss
- D. The speed limit of signals over long distances

The coaxial cable velocity of propagation (VoP) specifically refers to the rate at which radio frequency (RF) signals travel through a coaxial cable. This measurement is crucial for understanding how quickly signals can be transmitted over the cable, which influences the design and performance of communication systems. In coaxial cables, the VoP is typically expressed as a fraction of the speed of light in a vacuum, reflecting how the cable's materials affect signal speed. This is essential for ensuring that signals remain synchronized and reach their destinations without significant delay, especially in time-sensitive applications. Understanding the VoP helps engineers determine signal timing, synchronization, and the overall efficiency of data transmission within communication systems. The VoP is a vital parameter for those working with coaxial cables in various telecommunications and networking applications.

5. What role does documentation play during project execution?

- A. It delays decision-making processes
- B. It facilitates communication and accountability
- C. It limits stakeholder involvement
- D. It shortens the project timeline

Documentation is a crucial element during project execution because it serves to facilitate communication and accountability among all stakeholders involved in the project. When information is documented, it provides a clear and consistent way to share updates, decisions, and changes related to the project. This clarity helps ensure that everyone is on the same page and understands their roles and responsibilities. Moreover, well-maintained documentation can act as a reference point for making informed decisions throughout the project's lifecycle. It helps track progress, allows for the review of past actions, and provides evidence that can support accountability in terms of meeting deadlines, adhering to budgets, and fulfilling project requirements. Effective documentation also enhances transparency, making it easier for all parties to engage constructively and contribute to problem-solving. By documenting discussions, agreements, and project changes, stakeholders can be more actively involved, aligning their efforts towards common goals. This collective understanding and engagement improve the chances of project success and stakeholder satisfaction.

6. What is a "punch list" in construction?

- A. A list of suggested improvements for projects
- B. A record of completed phases
- C. A list of items that need corrections before finalization
- D. A document outlining future project potential

A "punch list" in construction refers specifically to a compilation of items that must be addressed before a project is considered complete. This list is typically generated towards the end of a construction project during the final walkthrough. It includes items that require correction, adjustment, or additional work to meet the contract specifications or acceptable standards. Examples of items on a punch list might include unfinished paint work, minor repairs, or incomplete installations that need resolution before the project can be fully signed off and considered operational. Understanding the punch list is crucial for ensuring that all aspects of a project meet quality standards and client expectations prior to final completion. In contrast, a list of suggested improvements, a record of completed phases, or a document outlining future project potential does not accurately capture the essence of what a punch list represents in the construction process.

7. What does the project lifecycle include in construction?

- A. Only execution phase
- B. From initiation to closure
- C. Just planning and execution phases
- D. Continuous improvement phases

The project lifecycle in construction encompasses all the phases that a project goes through from its beginning to its end. This includes initiation, where the project is defined and justified; planning, where detailed schematics, timelines, and budgets are developed; execution, where the actual construction takes place; monitoring and controlling, where progress is tracked against the plan; and finally closure, where the project is completed, and lessons learned are documented. Option B captures this full spectrum of phases, signifying the importance of a comprehensive approach in managing construction projects effectively. By addressing every stage from initiation to closure, it acknowledges that successful project management requires meticulous attention to each aspect of the lifecycle to ensure that goals are met and resources are utilized efficiently. In contrast, the other choices incomplete the lifecycle, focusing only on limited aspects, which does not reflect the comprehensive nature necessary for effective project management in construction.

8. What is the range of velocity of propagation (VOP) factors for broadband coaxial cables?

- A. 0.60 to 0.75
- B. 0.70 to 0.85
- C. 0.78 to 0.93
- D. 0.95 to 1.00

The range of velocity of propagation (VOP) factors for broadband coaxial cables is typically between 0.78 and 0.93. This range indicates how fast an electrical signal moves through the coaxial cable relative to the speed of light in a vacuum. The VOP varies based on the specific construction and materials used in different types of coaxial cables. The reason this range is considered standard for broadband coaxial cables is due to the dielectric materials that surround the core conductor, which affect how signals are transmitted. A higher VOP indicates that the signal is propagating closer to the speed of light, which is desirable for minimizing latency and ensuring optimal performance in broadband applications. While other options present different ranges, they do not correspond to the commonly recognized VOP factors for coaxial cables employed in broadband settings. The correct range acknowledges the physical properties of coaxial cables used for efficient signal transmission in telecommunications.

- 9. Why is it not necessary to measure the unregulated DC voltage on a line extender with a switching mode power supply (SMPS)?
 - A. An SMPS is less efficient
 - B. It provides wider DC voltage regulation
 - C. Measuring is inherently risky
 - D. It is often damaged in testing

Measuring the unregulated DC voltage on a line extender with a switching mode power supply (SMPS) is typically unnecessary because SMPS technology inherently provides wider DC voltage regulation. An SMPS is designed to convert power efficiently from an AC supply while maintaining a consistent output voltage across a range of input voltages and load conditions. This means that the output voltage remains stable even with fluctuations in input voltage or varying load requirements. This ability to regulate voltage effectively reduces the need for direct measurement of unregulated DC voltage, as the SMPS is already engineered to ensure a reliable voltage output. Thus, for a line extender using an SMPS, one can trust that the voltage levels will fall within acceptable limits without needing to frequently measure unregulated DC voltage levels, making it less critical to perform these measurements. In contrast, the other options do not accurately reflect the operational characteristics of an SMPS and its application in line extenders. For example, while measuring might be risky or potentially damaging, this is not the primary reason that measuring the unregulated DC voltage is unnecessary. The efficiency of an SMPS or the effects of measuring it do not relate directly to the importance of measuring unregulated DC voltage.

- 10. What is the attenuation through 1,600-feet of 0.750 cable at 600 MHz and 120° F, given a 1.31 dB/100 feet rate at 68° F?
 - A. 21.31 dB
 - **B. 22.05 dB**
 - C. 23.31 dB
 - D. 20.50 dB

To determine the attenuation through 1,600 feet of 0.750 cable at 600 MHz and 120° F, one must first calculate the total attenuation at the given temperature and distance based on the provided attenuation rate. Starting with the attenuation rate of 1.31 dB per 100 feet at 68° F, you first need to adjust this rate since the operating temperature is higher at 120° F. Generally, the attenuation of cables increases with rising temperatures. However, the problem does not provide a specific adjustment factor for attenuation at higher temperatures. To find the total attenuation over 1,600 feet, you compute how many 100-foot segments are in that distance. There are 16 segments in 1,600 feet (1,600 feet \div 100 feet = 16). You then multiply the number of segments by the attenuation rate: 1.31 dB/100 feet x 16 segments = 20.96 dB. Since the temperature at 120° F is not specifically factored into the attenuation used here, we can account for that by adding an adjustment (which is not explicitly stated in the problem). This adjustment factor typically leads to a slight increase in dB. Normally