

CESCP Exam Weighted Criteria Table

The following table indicates the approximate percentage (%) of exam content (exam items) for the five (5) major domain areas and the sub-components of those domain areas:

<p>I. Understand Employer's Responsibilities</p> <p>A. Implement the employer's electrical safety program</p> <p style="padding-left: 20px;">i. Identify safety program principles</p> <p style="padding-left: 20px;">ii. Identify safety program controls</p> <p>B. Recognize electrical safety program audit requirements</p> <p style="padding-left: 20px;">i. Recognize audit principles and procedures</p> <p style="padding-left: 20px;">ii. Recognize the required frequency of audits</p> <p style="padding-left: 20px;">iii. Recognize when revisions to the safety program are appropriate</p> <p>C. Identify requirements for a job briefing</p> <p>D. Recognize requirements for host employer and contractor relations</p>	<p>10%</p>
<p>II. Understand Electrical Safety-Related Work Practices</p> <p>A. Identify and define terminology related to electrical safety</p> <p>B. Identify the requirements for qualified and unqualified persons related to electrical equipment and systems</p> <p style="padding-left: 20px;">i. Identify the requirements for a person to be qualified</p> <p style="padding-left: 20px;">ii. Identify the training requirements</p> <p style="padding-left: 40px;">a. Qualified persons</p> <p style="padding-left: 40px;">b. Unqualified persons</p> <p style="padding-left: 20px;">iii. Identify tasks only a qualified worker can perform</p> <p>C. Recognize potential electrical hazards</p> <p style="padding-left: 20px;">i. Identify the hazards associated with energized electrical conductors and circuit parts</p> <p style="padding-left: 40px;">a. Recognize when a shock hazard exists</p> <p style="padding-left: 40px;">b. Recognize when an arc flash and arc blast hazard exists</p> <p style="padding-left: 40px;">c. Recognize that incident energy levels change with respect to location in the system or equipment</p> <p style="padding-left: 20px;">ii. Explain the relationship between electrical hazards and potential injuries</p> <p style="padding-left: 40px;">a. Contact injuries (e.g., current flow through tissue, burn)</p> <p style="padding-left: 40px;">b. Arc flash and arc blast injuries (e.g., thermal burn, hearing damage, concussion)</p> <p style="padding-left: 20px;">iii. Identify methods to control the risk associated with electrical hazards</p> <p style="padding-left: 40px;">a. Hazard elimination (i.e., create an electrically-safe work condition)</p> <p style="padding-left: 40px;">b. Substitution (e.g., use of non-electrical equipment, battery-operated hand tools)</p> <p style="padding-left: 40px;">c. Engineering control (e.g., GFCIs, barriers)</p> <p style="padding-left: 40px;">d. Awareness controls (e.g., signs, labels, barricades)</p> <p style="padding-left: 40px;">e. Administrative controls (e.g., training, job planning, procedures)</p> <p style="padding-left: 40px;">f. Personal protective equipment (e.g., insulated tools, arc-rated apparel, voltage-rated gloves)</p> <p>D. Identify emergency procedures for assisting victims of electrical incidents</p> <p style="padding-left: 20px;">i. Identify methods of release from contact</p> <p style="padding-left: 20px;">ii. Identify emergency response requirements</p>	<p>20%</p>
<p>III. Identify the Requirements for Establishing an Electrically-Safe Work Condition</p> <p>A. Identify requirements for de-energization according to employer program</p> <p>B. Recognize that all possible sources of electric supply must be identified</p> <p style="padding-left: 20px;">i. Recognize requirements for single-line diagrams</p> <p style="padding-left: 20px;">ii. Recognize that disconnecting means must be located for each power source</p>	<p>20%</p>

- C. Recognize the requirement to visually verify isolation where possible
- D. Identify the employer's documented and established policy to apply lockout/tagout (LOTO) devices
- E. Identify the steps to verify the absence of voltage
- F. Recognize the requirements for temporary protective grounding equipment
- G. Identify the components and elements of the LOTO program and procedures
 - i. Training
 - ii. Procedures
 - iii. Forms of control
 - a. Simple
 - b. Complex
 - iv. Coordination
 - v. Equipment
 - vi. Elements of control

IV. Identify Precautionary Techniques for Work Involving Electrical Hazards

40%

- A. Identify justification for not establishing an electrically-safe work condition
 - i. Greater hazard to de-energize
 - ii. Infeasibility
 - iii. Less than 50 volts (consider capacity)
- B. Determine energized electrical work permit requirements
 - i. Identify the permit elements
 - ii. Identify exemptions to the permit
- C. Understand the requirements for an electrical hazard analysis
 - i. Identify the components of a shock hazard analysis
 - a. Recognize the requirement to identify the voltage of electrical conductors and circuit parts
 - b. Explain the shock approach boundaries and their use
 - ii. Identify the components of an arc flash hazard analysis
 - a. Describe incident energy
 - b. Understand the effect of clearing time, short circuit current, and worker distance on incident energy
 - c. Interpret hazard information conveyed on equipment labels
 - d. Explain the arc flash boundary and its use
 - e. Understand the use of the hazard/risk category classification method
 - 1. Understand that the tables incorporate risk
 - 2. Understand that the tables are task/equipment based
 - 3. Identify table limiting parameters
 - iii. Verify compliance with PPE requirements for electrical hazards
 - a. Understand the PPE requirements for electrical hazards
 - 1. Head, face, neck, and chin protection
 - 2. Eye protection
 - 3. Hearing protection
 - 4. Body protection
 - a) Arc-rated garments
 - b) Layering
 - c) Underlayers
 - 5. Hand and arm protection
 - 6. Foot and leg protection

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- b. Understand the requirements for the care and maintenance of PPE
 - 1. Testing
 - 2. Inspection
 - 3. Care, maintenance, and storage
- c. Ensure no prohibited materials are worn
- d. Understand PPE ratings
 - 1. Voltage rating
 - 2. Arc rating
- e. Understand limitations of PPE
- f. Understand the use of Table H.3(a) and H.3(b) in Annex H to select appropriate PPE when an incident energy analysis is performed and PPE requirements are not provided
- g. Understand the use of PPE requirements when using the hazard/risk category classification method
- iv. Recognize requirements for other protective equipment (e.g., insulated tools, ladders, shields)
- v. Identify situations where equipment failure may occur
- D. Understand the requirements for reenergizing circuits after operation of overcurrent protective devices (OCPD)
- E. Understand the requirements related to the use of test instruments
 - i. Verify that employees are properly trained on each test instrument they will use
 - ii. Verify that all test instruments used are adequately rated
- F. Understand the use of other equipment
 - i. Understand the appropriate use of portable electric equipment
 - ii. ~~Verify that field tests of GFCI protection devices occur in accordance with the manufacturer's recommendations~~
 - iii. Verify that visual and mechanical inspections of portable electric equipment and cord sets occur as required
- G. Understand the required use of alerting techniques
 - i. Signs and tags
 - ii. Barricades
 - iii. Attendants
 - iv. Identification of look-alike equipment
- V. Understand Documentation Requirements** **10%**
 - A. Electrical safety program
 - B. Host-contractor meeting
 - C. Training
 - D. LOTO procedure
 - E. Electrical safety audit
 - F. Energized electrical work permit
 - G. Equipment labeling
 - H. Incident energy analysis
 - I. Maintenance, tests, and inspection
 - J. Single line diagrams