



Inovo Global Safety

Training & Advisory Services



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CSP EXAMINATION PREPARATION

DOMAIN 3

Risk Management

Exam Practice Quiz

Exam Weight: 15% of Total Score

Covering 04 Blueprint Objectives | 2×20 Practice Questions with Full Answer Key

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Quiz 1 Questions

Q1. What is the correct sequence for the safety risk evaluation process?

- A. Evaluate → Identify → Monitor → Analyze → Communicate
- B. Identify → Analyze → Evaluate → Monitor → Communicate
- C. Communicate → Identify → Evaluate → Analyze → Monitor
- D. Monitor → Analyze → Identify → Evaluate → Communicate

Answer: _____

Q2. A Job Hazard Analysis (JHA) is BEST described as:

- A. A financial audit of workers' compensation costs
- B. A tool that identifies hazards in each step of a job and develops measures to counteract them
- C. A qualitative risk ranking system for chemical exposures
- D. A regulatory compliance checklist for OSHA inspections

Answer: _____

Q3. In the hierarchy of controls, which option provides the HIGHEST level of hazard reduction?

- A. Administrative controls
- B. PPE
- C. Engineering controls
- D. Elimination

Answer: _____

Q4. Risk is defined as the product of:

- A. Frequency and duration of exposure only
- B. Hazard severity and probability of occurrence
- C. Number of workers exposed and cost of controls
- D. Incident rate and workers' compensation cost

Answer: _____

Q5. Which risk management strategy involves shifting the financial impact of a potential loss to another party?

- A. Risk retention
- B. Risk avoidance
- C. Risk transfer
- D. Risk reduction

Answer: _____

Q6. A company decides to self-insure rather than purchase workers' compensation insurance. This is an example of:

- A. Risk transfer
- B. Risk retention
- C. Risk avoidance
- D. Risk sharing

Answer: _____

Q7. A Process Hazard Analysis (PHA) is required under which OSHA standard?

- A. 29 CFR 1910.147 (LOTO)
- B. 29 CFR 1910.120 (HAZWOPER)
- C. 29 CFR 1910.119 (PSM)
- D. 29 CFR 1910.38 (EAP)

Answer: _____

Q8. Which of the following is NOT a component of the risk management process?

- A. Risk identification
- B. Risk analysis
- C. Risk elimination
- D. Risk communication

Answer: _____

Q9. What type of risk analysis uses guide words such as MORE, LESS, NONE, and REVERSE to identify deviations from design intent?

- A. Fault Tree Analysis (FTA)
- B. Failure Mode and Effects Analysis (FMEA)
- C. Hazard and Operability Study (HAZOP)
- D. What-If Analysis

Answer: _____

Q10. Which BEST describes a 'preliminary hazard analysis' (PHA) in the system safety context?

- A. A detailed quantitative risk analysis performed late in the design phase
- B. An early-stage hazard identification conducted before detailed design is complete
- C. A post-incident investigation technique
- D. A financial analysis of potential loss costs

Answer: _____

Q11. Risk communication is essential because:

- A. It replaces the need for engineering controls
- B. It ensures all stakeholders understand the risk and can make informed decisions
- C. It is only required after an accident has occurred
- D. It eliminates the need for PPE in the workplace

Answer: _____

Q12. An Experience Modification Rate (EMR) of 0.85 indicates:

- A. The company's loss experience is 15% worse than the industry average
- B. The company's loss experience is 15% better than the industry average
- C. The company has had no lost-time injuries in the past year
- D. The company's insurance premium will increase by 15%

Answer: _____

Q13. The technique of probabilistic risk assessment (PRA) was FIRST developed by which industry?

- A. Aerospace industry
- B. Chemical processing industry
- C. Nuclear power industry
- D. Aviation industry

Answer: _____

Q14. Which of the following is an example of risk AVOIDANCE?

- A. Purchasing liability insurance for a chemical process
- B. Deciding not to manufacture a product because its risk cannot be controlled to acceptable levels
- C. Installing engineering controls on a piece of equipment
- D. Training employees to recognise and respond to hazards

Answer: _____

Q15. In system safety, a hazard is BEST defined as:

- A. A condition that has already caused an injury
- B. The probability that an accident will occur
- C. A potential to do harm — a condition or set of conditions that can cause damage, injury, or loss
- D. The cost associated with an adverse event

Answer: _____

Q16. Risk ranking in a risk matrix is typically determined by combining:

- A. Exposure frequency and PPE availability
- B. Severity of consequences and probability of occurrence
- C. Number of workers exposed and regulatory penalty amounts
- D. Cost of controls and management priority

Answer: _____

Q17. Which of the following is a LAGGING risk indicator in occupational safety?

- A. Percentage of safety observations completed
- B. Near-miss reporting rate
- C. Total Recordable Incident Rate (TRIR)
- D. Percentage of corrective actions closed on time

Answer: _____

Q18. When conducting a What-If analysis, the primary question being answered is:

- A. What is the regulatory citation if this hazard is not corrected?
- B. What could go wrong, and what are the consequences if it does?
- C. What is the cost of implementing the required controls?
- D. What training is required for workers in this area?

Answer: _____

Q19. Loss prevention is BEST defined as:

- A. Transferring financial risk to an insurance company
- B. Activities designed to reduce the FREQUENCY of losses
- C. Activities designed to reduce the SEVERITY of losses after they occur
- D. Eliminating all risks in the workplace

Answer: _____

Q20. Which document specifically outlines expected roles, resources, and coordination needed to respond to and manage a disaster scenario?

- A. Employee Handbook
- B. Emergency Response Plan
- C. Safety Data Sheet
- D. Workers' Compensation Policy

Answer: _____

Quiz 1 Answers & Explanations

Q1. *What is the correct sequence for the safety risk evaluation process?*

Answer: B The ISO 31000 risk management process follows: Identify → Analyze (likelihood/consequence) → Evaluate (compare against criteria) → Monitor & Review → Communicate throughout all stages.

Q2. *A Job Hazard Analysis (JHA) is BEST described as:*

Answer: B A JHA examines each discrete job step, identifies the hazards present at each step, and recommends engineering, administrative, or PPE controls to eliminate or reduce those hazards.

Q3. *In the hierarchy of controls, which option provides the HIGHEST level of hazard reduction?*

Answer: D Elimination — physically removing the hazard from the workplace — is the most effective level of the hierarchy: Elimination > Substitution > Engineering Controls > Administrative Controls > PPE.

Q4. *Risk is defined as the product of:*

Answer: B Hazard risk = Severity × Probability of occurrence. This is the fundamental risk equation used in system safety analysis and risk matrices.

Q5. *Which risk management strategy involves shifting the financial impact of a potential loss to another party?*

Answer: C Risk transfer shifts the financial burden of a potential loss to another party — most commonly through insurance policies, indemnification clauses, or contractual hold-harmless agreements.

Q6. *A company decides to self-insure rather than purchase workers' compensation insurance. This is an example of:*

Answer: B Self-insurance is deliberate risk retention — the organisation retains and self-funds losses rather than paying premiums to transfer the risk to a commercial insurer.

Q7. *A Process Hazard Analysis (PHA) is required under which OSHA standard?*

Answer: C OSHA PSM (29 CFR 1910.119) requires a Process Hazard Analysis for facilities with listed highly hazardous chemicals above threshold quantities to systematically identify and evaluate process hazards.

Q8. *Which of the following is NOT a component of the risk management process?*

Answer: C Risk elimination is a control measure applied after risk assessment — not a step in the risk management process. The process steps are: Identify, Analyse, Evaluate, Monitor, and Communicate.

Q9. What type of risk analysis uses guide words such as MORE, LESS, NONE, and REVERSE to identify deviations from design intent?

Answer: C HAZOP uses structured guide words (MORE OF, LESS OF, NO/NONE, REVERSE, AS WELL AS, OTHER THAN, PART OF) systematically applied to process parameters to identify deviations and their potential consequences.

Q10. Which BEST describes a 'preliminary hazard analysis' (PHA) in the system safety context?

Answer: B System safety PHA is performed early in the conceptual design phase to identify potential hazards before specifications are finalised — when design changes are least costly to implement.

Q11. Risk communication is essential because:

Answer: B Risk communication ensures workers, management, regulators, and the public understand risk levels, the controls in place, and their roles — enabling informed decisions about protection and risk acceptance.

Q12. An Experience Modification Rate (EMR) of 0.85 indicates:

Answer: B $EMR = \text{Actual WC losses} \div \text{Expected losses for the industry}$. $EMR < 1.0$ means better-than-average performance; 0.85 means 15% fewer losses than industry average, qualifying the company for a premium credit.

Q13. The technique of probabilistic risk assessment (PRA) was FIRST developed by which industry?

Answer: C PRA was developed primarily by the nuclear power industry in the 1970s to estimate failure rates of complex systems, develop maintenance schedules, and assess risks to surrounding populations.

Q14. Which of the following is an example of risk AVOIDANCE?

Answer: B Risk avoidance eliminates the risk entirely by not engaging in the risky activity. Choosing not to manufacture the product removes the risk — no exposure, no potential loss.

Q15. In system safety, a hazard is BEST defined as:

Answer: C A hazard is a potential to do harm — a condition, set of conditions, or situation that, if triggered by an activating event, can produce a loss (accident). Hazards exist in a potential (dormant) state.

Q16. Risk ranking in a risk matrix is typically determined by combining:

Answer: B A risk matrix plots Severity (consequence magnitude: catastrophic to negligible) against Probability (likelihood: frequent to improbable) to produce a risk rank that guides prioritisation of corrective actions.

Q17. Which of the following is a LAGGING risk indicator in occupational safety?

Answer: C TRIR is a lagging indicator — it measures outcomes (recorded injuries) after they have occurred. Leading indicators (observation completion, near-miss rate, CA closure) predict future performance proactively.

Q18. When conducting a What-If analysis, the primary question being answered is:

Answer: B What-If analysis systematically asks: 'What if this component fails?' 'What if this condition changes?' to identify potential hazardous scenarios, their consequences, and appropriate safeguards.

Q19. Loss prevention is BEST defined as:

Answer: B Loss prevention reduces the frequency (probability) of losses. Loss reduction reduces severity (consequences) after a loss occurs. Both are components of a comprehensive risk management strategy.

Q20. Which document specifically outlines expected roles, resources, and coordination needed to respond to and manage a disaster scenario?

Answer: B An Emergency Response Plan (ERP) defines hazard scenarios, assigns roles and responsibilities, specifies resources (equipment, personnel, communication), and establishes inter-agency coordination for disaster management.

Quiz 2 Questions

Q1. A safety professional is prioritising corrective actions. Which method should be used to focus on the 20% of causes producing 80% of incidents?

- A. FMEA
- B. Pareto analysis
- C. Monte Carlo simulation
- D. Fault Tree Analysis

Answer: _____

Q2. Under OSHA PSM (29 CFR 1910.119), a Process Hazard Analysis must be performed by:

- A. A single certified safety engineer
- B. A team with expertise in engineering and process operations
- C. The facility's insurance carrier
- D. OSHA compliance officers only

Answer: _____

Q3. Which risk analysis tool starts with a failure and works BACKWARD to identify all possible causes?

- A. FMEA
- B. What-If Analysis
- C. Fault Tree Analysis (FTA)
- D. Checklist Analysis

Answer: _____

Q4. Risk sharing through captive insurance means:

- A. The company retains all losses internally without pooling
- B. A group of organisations pool their risks and fund losses collectively
- C. Risk is transferred entirely to a commercial insurer
- D. The company avoids the risk by not engaging in the activity

Answer: _____

Q5. Which of the following describes risk RETENTION as a deliberate strategy?

- A. A company buys an umbrella liability policy
- B. A company chooses not to insure small, predictable losses it can absorb in its operating budget
- C. A company requires contractors to carry their own insurance
- D. A company installs a sprinkler system to reduce fire losses

Answer: _____

Q6. The 'acceptable risk' concept in risk management means:

- A. All risks have been eliminated
- B. Residual risk remaining after controls is at a level tolerable to stakeholders
- C. No controls are needed for the identified hazard
- D. The organisation has transferred all risk to its insurer

Answer: _____

Q7. Replacing a toxic solvent with a less hazardous alternative BEST represents:

- A. Risk transfer
- B. Risk avoidance
- C. Risk reduction through substitution (hierarchy of controls)
- D. Risk retention

Answer: _____

Q8. During a hazard analysis, an analyst identifies that fire could occur if flammable vapors accumulate in an enclosed space. This hazard is classified as:

- A. Ergonomic hazard
- B. Physical hazard
- C. Chemical hazard
- D. Biological hazard

Answer: _____

Q9. Emergency preparedness planning for a chemical plant should include all of the following EXCEPT:

- A. Identification of potential chemical release scenarios
- B. Community emergency response coordination
- C. Guarantees that all scenarios can be mitigated without injury
- D. Resource inventories (equipment, personnel, communication systems)

Answer: _____

Q10. Residual risk is BEST defined as:

- A. The total risk before any controls are implemented
- B. The risk remaining after all feasible controls have been applied
- C. A risk that only exists under abnormal operating conditions
- D. The financial cost of insurance premiums

Answer: _____

Q11. Which of the following is a QUANTITATIVE risk analysis technique?

- A. HAZOP
- B. What-If Analysis
- C. Checklist Analysis
- D. Quantitative Risk Assessment (QRA)

Answer: _____

Q12. Which fire prevention risk strategy is MOST effective as a primary control?

- A. Conducting fire drills quarterly
- B. Installing automatic suppression systems
- C. Training all employees on fire extinguisher use
- D. Separating ignition sources from flammable materials

Answer: _____

Q13. The goal of a Job Hazard Analysis (JHA) is to:

- A. Determine the cost of a workers' compensation claim
- B. Identify and eliminate or control hazards in each step of a job
- C. Assign blame following a workplace accident
- D. Comply with OSHA recordkeeping requirements

Answer: _____

Q14. Loss reduction measures are applied:

- A. Before a loss occurs to prevent it
- B. During or after the loss event to contain or minimise its severity
- C. Exclusively during regulatory inspections
- D. Only when engineering controls have failed

Answer: _____

Q15. Which of the following is an example of a LEADING indicator for hazardous materials risk management?

- A. Number of chemical spill incidents in the past year
- B. Workers' compensation costs for chemical exposures
- C. Percentage of chemical storage areas with current secondary containment inspections completed
- D. Number of OSHA citations for HazCom violations

Answer: _____

Q16. Which OSHA standard requires covered facilities to develop a Risk Management Plan (RMP) for chemical processes with threshold quantities of extremely hazardous substances?

- A. 29 CFR 1910.119 (PSM)
- B. 40 CFR Part 68 (EPA RMP)
- C. 29 CFR 1910.120 (HAZWOPER)
- D. 40 CFR Part 112 (SPCC)

Answer: _____

Q17. Which type of hazard analysis is MOST suitable for a new facility in the conceptual design phase?

- A. HAZOP
- B. What-If Analysis
- C. Preliminary Hazard Analysis (PHA — system safety)
- D. Fault Tree Analysis

Answer: _____

Q18. Risk communication to workers should be:

- A. Limited to management-level personnel only
- B. Provided only after all controls are fully implemented
- C. Ongoing, two-way, and tailored to the audience's level of understanding
- D. Restricted to written memos to maintain a documentation trail only

Answer: _____

Q19. Implementing engineering controls to reduce noise exposure is an example of which risk management strategy?

- A. Risk avoidance
- B. Risk retention
- C. Risk transfer
- D. Risk reduction (loss prevention through hazard control)

Answer: _____

Q20. Which element is NOT typically found in a safety risk management plan?

- A. Hazard identification methodology
- B. Control measures with effectiveness criteria
- C. Marketing strategy for safety programme promotion
- D. Monitoring and review schedule

Answer: _____

Quiz 2 Answers & Explanations

Q1. A safety professional is prioritising corrective actions. Which method should be used to focus on the 20% of causes producing 80% of incidents?

Answer: B Pareto analysis applies the 80/20 rule — 80% of problems come from 20% of causes. It ranks causes by frequency or severity so corrective action resources are targeted where they produce the greatest impact.

Q2. Under OSHA PSM (29 CFR 1910.119), a Process Hazard Analysis must be performed by:

Answer: B PSM requires a multi-disciplinary PHA team including at least one person with expertise in the process being evaluated and one person knowledgeable in the PHA methodology being applied.

Q3. Which risk analysis tool starts with a failure and works BACKWARD to identify all possible causes?

Answer: C FTA is top-down (deductive) — it starts with the undesired top event and works backward through AND/OR logic gates to identify all combinations of basic events (root causes) that can produce the top event.

Q4. Risk sharing through captive insurance means:

Answer: B Risk sharing through captive insurance pools risk among a group of related organisations — losses are funded collectively, reducing individual cost while maintaining more control than commercial insurance.

Q5. Which of the following describes risk RETENTION as a deliberate strategy?

Answer: B Deliberate risk retention knowingly accepts and self-funds a risk. Organisations often retain small, frequent, predictable losses that cost less to budget for directly than to insure through commercial carriers.

Q6. The 'acceptable risk' concept in risk management means:

Answer: B Acceptable (tolerable) risk is the residual risk level remaining after all feasible controls have been applied, which stakeholders — workers, management, regulators — judge to be low enough to proceed safely.

Q7. Replacing a toxic solvent with a less hazardous alternative BEST represents:

Answer: C Substitution — replacing a hazardous substance with a less hazardous one — is the second level of the hierarchy of controls. It reduces (but does not completely eliminate) the associated risk.

Q8. During a hazard analysis, an analyst identifies that fire could occur if flammable vapors accumulate in an enclosed space. This hazard is classified as:

Answer: C Flammable vapors and the associated fire/explosion risk are chemical hazards. Hazard categories: Chemical (substances/reactions), Physical (energy), Biological (organisms), Ergonomic (work conditions), Psychological.

Q9. *Emergency preparedness planning for a chemical plant should include all of the following EXCEPT:*

Answer: C Emergency plans cannot guarantee all scenarios will be mitigated without injury — that is an unrealistic claim. Plans identify scenarios, assign resources, define procedures, and coordinate response — but outcomes cannot be guaranteed.

Q10. *Residual risk is BEST defined as:*

Answer: B Residual risk is the risk level remaining after all feasible controls have been implemented. Risk management aims to reduce residual risk to an acceptable/tolerable level through the hierarchy of controls.

Q11. *Which of the following is a QUANTITATIVE risk analysis technique?*

Answer: D QRA uses numerical failure rate data, fault trees, event trees, and probability calculations to produce quantitative risk estimates (e.g., individual risk, societal risk). HAZOP, What-If, and Checklists are qualitative/semi-quantitative.

Q12. *Which fire prevention risk strategy is MOST effective as a primary control?*

Answer: D Prevention of ignition — physically separating ignition sources from flammable/combustible materials — is the primary (highest level) fire safety strategy. Suppression, drills, and training are secondary response strategies.

Q13. *The goal of a Job Hazard Analysis (JHA) is to:*

Answer: B A JHA identifies hazards at each discrete job step and recommends elimination or control measures — engineering, administrative, or PPE — to prevent injury before work begins.

Q14. *Loss reduction measures are applied:*

Answer: B Loss reduction applies during a loss event (sprinklers limiting fire spread) and after (medical management, rehabilitation, rapid repair) to minimise the ultimate impact. Loss prevention reduces frequency before events occur.

Q15. *Which of the following is an example of a LEADING indicator for hazardous materials risk management?*

Answer: C Leading indicators measure proactive activities (inspections, training current, near-misses reported). Spill incidents, WC costs, and OSHA citations are all lagging — they measure outcomes after events have occurred.

Q16. *Which OSHA standard requires covered facilities to develop a Risk Management Plan (RMP) for chemical processes with threshold quantities of extremely hazardous substances?*

Answer: B EPA RMP (40 CFR Part 68) requires facilities with listed substances above thresholds to prepare a Risk Management Plan covering hazard assessment, prevention programme, and emergency response planning.

Q17. Which type of hazard analysis is MOST suitable for a new facility in the conceptual design phase?

Answer: C System safety PHA is designed for early conceptual design when detailed information is not yet available. HAZOP and FTA require detailed process/equipment information available only in later design phases.

Q18. Risk communication to workers should be:

Answer: C Effective risk communication is: continuous (not one-time), bidirectional (feedback loops), and audience-appropriate (language, literacy, cultural context). Workers need to understand risks AND be able to report new ones.

Q19. Implementing engineering controls to reduce noise exposure is an example of which risk management strategy?

Answer: D Engineering controls reduce the probability and/or severity of harm — this is a risk reduction strategy. Examples: sound-dampening enclosures, vibration isolation mounts, noise barriers between source and worker.

Q20. Which element is NOT typically found in a safety risk management plan?

Answer: C Safety risk management plans include: hazard ID, risk assessment, controls, responsibilities, monitoring schedule, review process, and communication plan. A marketing strategy is not a component of safety risk management.

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