



Inovo Global Safety

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CSP EXAMINATION PREPARATION

DOMAIN 4

Emergency Management

Exam Practice Quiz

Exam Weight: 9% of Total Score

Covering 05 Blueprint Objectives | 2x20 Practice Questions with Full Answer Key

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Quiz 1 Questions

Topic Area: Emergency Action Plans

Question 1

Under OSHA 29 CFR 1910.38, when is a written Emergency Action Plan (EAP) required?

- A) All facilities, regardless of size
- B) Facilities with 10 or more employees
- C) Facilities with 25 or more employees
- D) Facilities classified as high-hazard occupancies only

Your Answer: _____

Topic Area: Fire Detection & Alarm

Question 2

What is the NFPA 72 Temporal-Three signal used for?

- A) Carbon monoxide alarm
- B) Fire evacuation signal
- C) Shelter-in-place notification
- D) All-clear signal after emergency

Your Answer: _____

Topic Area: Incident Command System (ICS)

Question 3

In the Incident Command System (ICS), what is the optimal span of control for a supervisor?

- A) 1 supervisor to 3 subordinates
- B) 1 supervisor to 5 subordinates
- C) 1 supervisor to 8 subordinates
- D) 1 supervisor to 10 subordinates

Your Answer: _____

Topic Area: EPCRA / SARA Title III

Question 4

The Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted primarily in response to which event?

A) Three Mile Island nuclear accident

B) Bhopal, India gas disaster

C) Deepwater Horizon oil spill

D) Texas City refinery explosion

Your Answer: _____

Topic Area: EPCRA / SARA Title III

Question 5

Under EPCRA Section 302, what must a facility do if it has Extremely Hazardous Substances (EHS) above the Threshold Planning Quantity (TPQ)?

A) Submit a Tier II report to the EPA

B) Notify the Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC)

C) File a Toxics Release Inventory (TRI) report

D) Submit an SDS to the National Response Center

Your Answer: _____

Topic Area: HazMat Response Levels

Question 6

In emergency response, a first responder who observes a hazardous material release and calls for help without entering the area is demonstrating which response posture?

A) Offensive response

B) Defensive response

C) Incidental release response

D) Technician-level response

Your Answer: _____

Topic Area: Fire Science

Question 7

Which of the following correctly lists the four elements of the Fire Tetrahedron?

A) Fuel, oxygen, heat, smoke

B) Fuel, oxygen, heat, uninhibited chain reaction

C) Fuel, oxygen, heat, dispersion

D) Oxygen, heat, ignition source, vapors

Your Answer: _____

Topic Area: Fire Science

Question 8

What is defined as the lowest temperature at which a liquid produces sufficient vapor to ignite momentarily with an external ignition source?

A) Auto-ignition temperature (AIT)

B) Fire point

C) Flash point

D) Lower explosive limit (LEL)

Your Answer: _____

Topic Area: Fire Suppression Systems

Question 9

A sprinkler system where pipes are filled with pressurized air and water only enters upon activation is called a:

A) Wet pipe system

B) Deluge system

C) Pre-action system

D) Dry pipe system

Your Answer: _____

Topic Area: Fire Extinguishers

Question 10

A fire extinguisher labeled Class K is specifically designed for use on which type of fire?

A) Flammable metal fires

B) Energized electrical equipment

C) Cooking oils and fats in commercial kitchens

D) Ordinary combustibles (wood, paper)

Your Answer: _____

Topic Area: HazMat — DOT Classification

Question 11

Under DOT regulations (49 CFR), what does Packing Group I indicate?

A) Minor hazard — lowest risk

B) Medium danger

C) Greatest hazard — highest risk

D) Radioactive material designation

Your Answer: _____

Topic Area: HazMat Emergency Resources

Question 12

CHEMTREC provides which type of emergency service?

A) On-site hazmat remediation

B) 24-hour chemical emergency information and shipper contact for responders

C) Environmental compliance reporting

D) Workers' compensation claims processing

Your Answer: _____

Topic Area: Emergency Response Priorities

Question 13

What is the correct order of priorities in an emergency response situation?

A) Property → People → Cleanup → Operations

B) People → Property → Cleanup → Operations

C) Operations → People → Property → Cleanup

D) Cleanup → Property → People → Operations

Your Answer: _____

Topic Area: Emergency Response Guidebook

Question 14

The Emergency Response Guidebook (ERG) is published by which organization and updated how frequently?

- A) OSHA; updated annually
- B) NFPA; updated every 3 years
- C) DOT/PHMSA; updated every 4 years
- D) EPA; updated every 5 years

Your Answer: _____

Topic Area: Evacuation Planning

Question 15

Which component of the evacuation time formula accounts for an employee gathering belongings before leaving?

- A) Notification time
- B) Travel time
- C) Delay time (pre-evacuation activity time)
- D) Reaction time

Your Answer: _____

Topic Area: HAZWOPER Response Levels

Question 16

An employee calls 911 and evacuates a building upon noticing smoke, without attempting to fight the fire. This represents which HAZWOPER response level?

- A) HazMat Technician
- B) HazMat Specialist
- C) First Responder Awareness Level

D) Incident Commander

Your Answer: _____

Topic Area: Means of Egress

Question 17

Under NFPA 101 (Life Safety Code), which of the following can serve as a required means of egress?

A) Standard passenger elevators

B) Escalators

C) Horizontal exits and stairs

D) Fire service elevators only

Your Answer: _____

Topic Area: Business Continuity Planning

Question 18

What does RTO stand for in business continuity planning, and what does it measure?

A) Recovery Transfer Option — the cost of recovery

B) Recovery Time Objective — the maximum acceptable downtime before operations resume

C) Return to Operations — the timeline for full restoration

D) Resource Transfer Order — resource allocation for recovery

Your Answer: _____

Topic Area: Workplace Violence

Question 19

Type IV workplace violence is characterized by:

- A) A customer attacking a service worker
- B) An employee attacking a coworker
- C) Domestic violence extending into the workplace
- D) A criminal with no workplace relationship attacking an employee

Your Answer: _____

Topic Area: Active Shooter Response

Question 20

In the active shooter protocol Run-Hide-Fight, what action should be taken FIRST when an active shooter is present?

- A) Fight the attacker using available improvised weapons
- B) Hide behind a barricade and silence your phone
- C) Run and evacuate if a safe escape route is available
- D) Call 911 before taking any other action

Your Answer: _____

Quiz 1 Answers & Explanations

Topic Area: Emergency Action Plans

Question 1

Under OSHA 29 CFR 1910.38, when is a written Emergency Action Plan (EAP) required?

A) All facilities regardless of size

✓B) Facilities with 10 or more employees

C) Facilities with 25 or more employees

D) Facilities classified as high-hazard occupancies only

CORRECT ANSWER: B | Topic: Emergency Action Plans

OSHA 1910.38 requires a written EAP for facilities with 10 or more employees. Facilities with fewer than 10 employees may communicate the plan orally. The written plan must be kept at the workplace and available for employee review. (Reference: OSHA 29 CFR 1910.38; Brauer Ch. 36)

Topic Area: Fire Detection & Alarm

Question 2

What is the NFPA 72 Temporal-Three signal used for?

A) Carbon monoxide alarm

✓B) Fire evacuation signal

C) Shelter-in-place notification

D) All-clear signal after emergency

CORRECT ANSWER: B | Topic: Fire Detection & Alarm

The NFPA 72 Temporal-Three pattern (3 short pulses of 0.5 seconds on / 0.5 seconds off, followed by a 1.5-second pause) is the standard fire evacuation signal. The Temporal-Four pattern is used specifically for carbon monoxide alarms. (Reference: NFPA 72; Brauer Ch. 37)

Topic Area: Incident Command System (ICS)

Question 3

In the Incident Command System (ICS), what is the optimal span of control for a supervisor?

A) 1 supervisor to 3 subordinates

✓B) 1 supervisor to 5 subordinates

C) 1 supervisor to 8 subordinates

D) 1 supervisor to 10 subordinates

CORRECT ANSWER: B | Topic: Incident Command System (ICS)

ICS specifies an optimal span of control of 1 supervisor to 5 subordinates. The acceptable range is 1:3 to 1:7. Exceeding these limits reduces effectiveness of command and communication during emergencies. (Reference: FEMA ICS-100; NIMS; Brauer Ch. 36)

Topic Area: EPCRA / SARA Title III

Question 4

The Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted primarily in response to which event?

A) Three Mile Island nuclear accident

✓B) Bhopal, India gas disaster

C) Deepwater Horizon oil spill

D) Texas City refinery explosion

CORRECT ANSWER: B | Topic: EPCRA / SARA Title III

EPCRA (Title III of SARA) was enacted in 1986 primarily in response to the 1984 Bhopal, India disaster at the Union Carbide plant, where methyl isocyanate (MIC) gas release killed thousands. It requires community emergency planning and chemical inventory reporting. (Reference: SARA Title III / EPCRA; Yates Ch. 29)

Topic Area: EPCRA / SARA Title III

Question 5

Under EPCRA Section 302, what must a facility do if it has Extremely Hazardous Substances (EHS) above the Threshold Planning Quantity (TPQ)?

A) Submit a Tier II report to the EPA

✓B) Notify the Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC)

C) File a Toxics Release Inventory (TRI) report

D) Submit an SDS to the National Response Center

CORRECT ANSWER: B | Topic: EPCRA / SARA Title III

EPCRA Section 302 requires facilities with EHS above the Threshold Planning Quantity (TPQ) to notify the LEPC and SERC. This notification triggers inclusion in local emergency planning activities. Section 313 covers TRI reporting; Section 304 covers release notifications. (Reference: EPCRA Section 302 — 40 CFR Part 355; Brauer Ch. 37)

Topic Area: HazMat Response Levels

Question 6

In emergency response, a first responder who observes a hazardous material release and calls for help without entering the area is demonstrating which response posture?

A) Offensive response

✓B) Defensive response

C) Incidental release response

D) Technician-level response

CORRECT ANSWER: B | Topic: HazMat Response Levels

A defensive response means the responder does NOT enter the hot zone but takes action from a safe distance such as notification, evacuation, and calling for specialized help. An offensive response (taken by HazMat Technicians) involves entering the hot zone with appropriate protective equipment. (Reference: OSHA 1910.120 HAZWOPER; Yates Ch. 29)

Topic Area: Fire Science

Question 7

Which of the following correctly lists the four elements of the Fire Tetrahedron?

A) Fuel, oxygen, heat, smoke

✓B) Fuel, oxygen, heat, uninhibited chain reaction

C) Fuel, oxygen, heat, dispersion

D) Oxygen, heat, ignition source, vapors

CORRECT ANSWER: B | Topic: Fire Science

The Fire Tetrahedron adds a fourth element to the Fire Triangle: uninhibited chemical chain reaction. The three elements of the Fire Triangle are fuel, oxygen, and heat. Halogenated agents (Halon) extinguish fires by interrupting the chain reaction. (Reference: NFPA fire science fundamentals; Brauer Ch. 19)

Topic Area: Fire Science**Question 8**

What is defined as the lowest temperature at which a liquid produces sufficient vapor to ignite momentarily with an external ignition source?

A) Auto-ignition temperature (AIT)

B) Fire point

✓C) Flash point

D) Lower explosive limit (LEL)

CORRECT ANSWER: C | Topic: Fire Science

Flash point is the lowest temperature at which a liquid produces enough vapor to flash (ignite momentarily) when an ignition source is applied. Fire point is higher — the temperature at which sustained combustion occurs. AIT requires no external ignition source. (Reference: NFPA 30; Brauer Ch. 19)

Topic Area: Fire Suppression Systems**Question 9**

A sprinkler system where pipes are filled with pressurized air and water only enters upon activation is called a:

A) Wet pipe system

B) Deluge system

C) Pre-action system

✓D) Dry pipe system

CORRECT ANSWER: D | Topic: Fire Suppression Systems

A dry pipe sprinkler system has pipes filled with pressurized air or nitrogen rather than water. When a sprinkler head fuses (opens), the air is released, a valve opens, and water flows. Dry pipe systems are used in

environments subject to freezing, such as loading docks or unheated warehouses. (Reference: NFPA 13; Brauer Ch. 19)

Topic Area: Fire Extinguishers

Question 10

A fire extinguisher labeled Class K is specifically designed for use on which type of fire?

A) Flammable metal fires

B) Energized electrical equipment

✓C) Cooking oils and fats in commercial kitchens

D) Ordinary combustibles (wood, paper)

CORRECT ANSWER: C | Topic: Fire Extinguishers

Class K fire extinguishers use wet chemical agents designed specifically for high-temperature cooking oils and fats found in commercial kitchens. They work by saponification (converting fats to soap) to cool and suppress the fire. Class K is analogous to Class F used in Europe. (Reference: NFPA 10; Brauer Ch. 19)

Topic Area: HazMat — DOT Classification

Question 11

Under DOT regulations (49 CFR), what does Packing Group I indicate?

A) Minor hazard — lowest risk

B) Medium danger

✓C) Greatest hazard — highest risk

D) Radioactive material designation

CORRECT ANSWER: C | Topic: HazMat — DOT Classification

DOT Packing Groups classify the degree of danger of hazardous materials: PG I = greatest hazard (high danger), PG II = medium danger, PG III = minor danger. Packing Group I materials require the most stringent packaging standards. (Reference: 49 CFR Part 173; Yates Ch. 29)

Topic Area: HazMat Emergency Resources

Question 12

CHEMTREC provides which type of emergency service?

A) On-site hazmat remediation

✓B) 24-hour chemical emergency information and shipper contact for responders

C) Environmental compliance reporting

D) Workers' compensation claims processing

CORRECT ANSWER: B | Topic: HazMat Emergency Resources

CHEMTREC (Chemical Transportation Emergency Center) operates a 24-hour hotline (1-800-424-9300) that provides emergency chemical information and contacts shippers for chemical incidents. It is operated by the American Chemistry Council and is a required emergency contact on HazMat shipping papers. (Reference: DOT 49 CFR; Yates Ch. 29)

Topic Area: Emergency Response Priorities**Question 13**

What is the correct order of priorities in an emergency response situation?

A) Property → People → Cleanup → Operations

✓B) People → Property → Cleanup → Operations

C) Operations → People → Property → Cleanup

D) Cleanup → Property → People → Operations

CORRECT ANSWER: B | Topic: Emergency Response Priorities

The universally accepted priority order in emergencies is: (1) Safety of people (life safety above all else), (2) Protection of property, (3) Cleanup and salvage operations, (4) Restoring normal operations. Life safety always takes precedence over property protection. (Reference: FEMA Emergency Management principles; Brauer Ch. 36)

Topic Area: Emergency Response Guidebook

Question 14

The Emergency Response Guidebook (ERG) is published by which organization and updated how frequently?

A) OSHA; updated annually

B) NFPA; updated every 3 years

✓C) DOT/PHMSA; updated every 4 years

D) EPA; updated every 5 years

CORRECT ANSWER: C | Topic: Emergency Response Guidebook

The Emergency Response Guidebook (ERG) is published by the US Department of Transportation / Pipeline and Hazardous Materials Safety Administration (PHMSA), in collaboration with Transport Canada and Mexico's SEMARNAT. It is updated every 4 years (last in 2024). (Reference: DOT/PHMSA ERG; Yates Ch. 29)

Topic Area: Evacuation Planning**Question 15**

Which component of the evacuation time formula accounts for an employee gathering belongings before leaving?

A) Notification time

B) Travel time

✓C) Delay time (pre-evacuation activity time)

D) Reaction time

CORRECT ANSWER: C | Topic: Evacuation Planning

Evacuation Time = Notification Time + Delay Time + Travel Time. Delay Time includes both reaction time (time to perceive alarm and decide to act) and pre-evacuation activity time (collecting belongings, logging off computer, contacting others). This is why drills are essential — they reduce unnecessary delay time. (Reference: NFPA 101; SFPE Fire Protection Engineering; Brauer Ch. 37)

Topic Area: HAZWOPER Response Levels**Question 16**

An employee calls 911 and evacuates a building upon noticing smoke, without attempting to fight the fire. This represents which HAZWOPER response level?

A) HazMat Technician

B) HazMat Specialist

✓C) First Responder Awareness Level

D) Incident Commander

CORRECT ANSWER: C | Topic: HAZWOPER Response Levels

First Responder Awareness Level (Level 1) involves recognizing a hazardous condition and notifying appropriate authorities — no rescue or mitigation attempts. First Responder Operations Level (Level 2) involves defensive action. HazMat Technicians (Level 3) take offensive action and may enter the hot zone. (Reference: OSHA 29 CFR 1910.120(q); Yates Ch. 29)

Topic Area: Means of Egress

Question 17

Under NFPA 101 (Life Safety Code), which of the following can serve as a required means of egress?

A) Standard passenger elevators

B) Escalators

✓C) Horizontal exits and stairs

D) Fire service elevators only

CORRECT ANSWER: C | Topic: Means of Egress

NFPA 101 recognizes horizontal exits and stairs as valid means of egress. Standard elevators and escalators cannot be used as required means of egress because they may be unavailable during a fire or emergency. Firefighter service elevators have specific uses during fire operations but are not counted as required egress. (Reference: NFPA 101 Life Safety Code; Brauer Ch. 19)

Topic Area: Business Continuity Planning

Question 18

What does RTO stand for in business continuity planning, and what does it measure?

A) Recovery Transfer Option — the cost of recovery

✓B) Recovery Time Objective — the maximum acceptable downtime before operations resume

C) Return to Operations — the timeline for full restoration

D) Resource Transfer Order — resource allocation for recovery

CORRECT ANSWER: B | Topic: Business Continuity Planning

RTO (Recovery Time Objective) is the maximum acceptable duration of downtime after a disruption before the absence of business function causes unacceptable consequences. It differs from RPO (Recovery Point Objective), which measures the maximum acceptable data loss in time, and MTD (Maximum Tolerable Downtime), the total time before critical damage occurs. (Reference: Business Continuity Planning; Yates Ch. 22, 23)

Topic Area: Workplace Violence

Question 19

Type IV workplace violence is characterized by:

A) A customer attacking a service worker

B) An employee attacking a coworker

✓C) Domestic violence extending into the workplace

D) A criminal with no workplace relationship attacking an employee

CORRECT ANSWER: C | Topic: Workplace Violence

Type IV workplace violence involves domestic/personal relationship violence that spills into the workplace, such as a partner attacking an employee at work. Victim Protective Orders (VPOs) must be communicated to security. Type I = criminal (no relationship); Type II = customer/client; Type III = worker-on-worker. (Reference: NIOSH/OSHA Workplace Violence classification; Yates Ch. 14)

Topic Area: Active Shooter Response

Question 20

In the active shooter protocol Run-Hide-Fight, what action should be taken FIRST when an active shooter is present?

A) Fight the attacker using available improvised weapons

B) Hide behind a barricade and silence your phone

✓C) Run and evacuate if a safe escape route is available

D) Call 911 before taking any other action

CORRECT ANSWER: C | Topic: Active Shooter Response

Run (evacuate) is always the first option if a safe escape path exists. Only if you cannot run safely should you Hide (barricade, lock doors, silence phone, turn off lights). Fighting the attacker is the absolute last resort when all other options are exhausted and the attacker is an immediate threat to life. (Reference: DHS Active Shooter guidelines; Yates Ch. 14)

Quiz 2 Questions

Topic Area: Fire Detection

Question 1

A smoke detector best suited for detecting slow, smoldering fires before they burst into flames is:

- A) Ionization type
- B) Photoelectric type
- C) Rate-of-rise heat detector
- D) Fixed-temperature heat detector

Your Answer: _____

Topic Area: HazMat — DOT Classification

Question 2

Under the DOT hazard classification system (49 CFR), Class 1 materials include:

- A) Corrosives such as battery acid
- B) Explosives such as dynamite and fireworks
- C) Radioactive materials such as uranium ore
- D) Flammable liquids such as gasoline

Your Answer: _____

Topic Area: EPCRA / SARA Title III

Question 3

Which SARA Title III section requires facilities to immediately notify LEPC and SERC when a release of an Extremely Hazardous Substance exceeds the Reportable Quantity (RQ)?

- A) Section 302
- B) Section 304

C) Section 311

D) Section 313

Your Answer: _____

Topic Area: Fire Suppression Systems

Question 4

A deluge sprinkler system differs from other sprinkler systems in that:

A) It requires two activation signals before releasing water

B) Its pipes are filled with pressurized nitrogen

C) All sprinkler heads are open simultaneously and discharge water when the system activates

D) It uses a fusible link at each individual head

Your Answer: _____

Topic Area: Fire Alarm Signaling

Question 5

The term 'Temporal Four' in fire alarm signaling refers to:

A) A four-alarm fire requiring multiple fire department companies

B) The signal pattern used for carbon monoxide alarms

C) The maximum number of emergency notification cycles

D) The four-component fire tetrahedron signal

Your Answer: _____

Topic Area: Incident Command System (ICS)**Question 6**

Under ICS, what term describes the use of a common command structure when multiple agencies with different jurisdictions respond to the same incident?

A) Unified Command

B) Multi-Agency Coordination (MAC)

C) Emergency Operations Center (EOC)

D) Area Command

Your Answer: _____

Topic Area: Fire Suppression Systems**Question 7**

A pre-action sprinkler system is MOST appropriate for which type of occupancy?

A) Aircraft hangars requiring rapid total coverage

B) Outdoor loading docks subject to freezing temperatures

C) Data centers and museum archives where accidental discharge must be prevented

D) Commercial kitchens with cooking oil fires

Your Answer: _____

Topic Area: HazMat — DOT Classification**Question 8**

Which DOT hazard class covers oxidizers that can intensify a fire by releasing oxygen?

A) Class 2 (Gases)

B) Class 3 (Flammable Liquids)

C) Class 4 (Flammable Solids)

D) Class 5 (Oxidizers and Organic Peroxides)

Your Answer: _____

Topic Area: Workplace Violence

Question 9

Healthcare workers face the greatest risk from which type of workplace violence?

A) Type I (Criminal Intent)

B) Type II (Customer/Client)

C) Type III (Worker-on-Worker)

D) Type IV (Personal Relationship)

Your Answer: _____

Topic Area: Means of Egress

Question 10

A safety professional conducts a walkthrough and notes that certain escape routes are too narrow to accommodate all employees simultaneously during evacuation. Which NFPA standard most directly governs evacuation route requirements?

A) NFPA 10 (Portable Fire Extinguishers)

B) NFPA 13 (Sprinkler Systems)

C) NFPA 72 (Fire Alarm Code)

D) NFPA 101 (Life Safety Code)

Your Answer: _____

Topic Area: Business Continuity Planning

Question 11

What is the primary distinction between Recovery Time Objective (RTO) and Recovery Point Objective (RPO) in business continuity planning?

- A) RTO measures acceptable data loss; RPO measures maximum downtime
- B) RTO measures maximum downtime; RPO measures acceptable data loss in time
- C) RTO measures staffing levels; RPO measures financial recovery
- D) RTO and RPO are equivalent measures of the same parameter

Your Answer: _____

Topic Area: EPCRA / SARA Title III

Question 12

Under the EPCRA Tier II reporting requirement (Section 312), to which entities must facilities submit chemical inventory information?

- A) EPA and OSHA only
- B) Local Emergency Planning Committee (LEPC), State Emergency Response Commission (SERC), and local fire departments
- C) National Response Center (NRC) only
- D) Facility employees and neighboring residents

Your Answer: _____

Topic Area: Fire Classification

Question 13

A fire in a storage room containing combustible metal chips (magnesium shavings) would be classified as which fire class?

- A) Class A
- B) Class B

C) Class C

D) Class D

Your Answer: _____

Topic Area: Active Shooter Response

Question 14

The 'ALICE' acronym used in active shooter training stands for which sequence of actions?

A) Alert, Lock, Isolate, Counter, Escape

B) Alert, Lockdown, Inform, Counter, Evacuate

C) Alert, Lock, Inform, Counter, Evacuate

D) Alert, Lockdown, Identify, Call, Escape

Your Answer: _____

Topic Area: Fire Science

Question 15

Auto-ignition temperature (AIT) is defined as the temperature at which a material:

A) Produces sufficient vapor to ignite with an ignition source

B) Sustains combustion for at least 5 seconds

C) Ignites without any external ignition source

D) Decomposes and releases flammable gases

Your Answer: _____

Topic Area: Incident Command System (ICS)

Question 16

Which section of the ICS structure is responsible for collecting, evaluating, and disseminating incident information and maintaining situation status?

A) Operations Section

B) Logistics Section

C) Planning Section

D) Finance/Administration Section

Your Answer: _____

Topic Area: HazMat Response Zones

Question 17

In HazMat incident response, what is the function of the Warm Zone (Contamination Reduction Zone)?

A) Primary incident command location and media staging area

B) Area where contaminated personnel and equipment are decontaminated

C) Most contaminated area where HazMat Technicians work

D) Perimeter surrounding the entire incident scene

Your Answer: _____

Topic Area: Emergency Action Plans

Question 18

Which of the following is a REQUIRED element of an Emergency Action Plan (EAP) under 29 CFR 1910.38?

A) Procedures for mutual aid with neighboring facilities

B) A preferred method for reporting fires and other emergencies

C) A designated Emergency Operations Center (EOC)

D) Pre-negotiated contracts with local fire departments

Your Answer: _____

Topic Area: Fire Detection

Question 19

Rate-of-rise heat detectors activate when:

- A) Temperature exceeds a preset fixed level (e.g., 135°F)
- B) Temperature rises more than 12°-15°F per minute
- C) Smoke particles enter the detection chamber
- D) Flame infrared radiation exceeds a threshold

Your Answer: _____

Topic Area: Fire Suppression Systems

Question 20

Which sprinkler head type is designed for high-pile storage warehouses and delivers a high flow rate to suppress fires before they can spread?

- A) Standard Response (SR) head
- B) Intermediate sprinkler head
- C) Early Suppression Fast Response (ESFR) head
- D) Quick Response (QR) head

Your Answer: _____

Quiz 2 Answers & Explanations

Topic Area: Fire Detection

Question 1

A smoke detector best suited for detecting slow, smoldering fires before they burst into flames is:

A) Ionization type

✓B) Photoelectric type

C) Rate-of-rise heat detector

D) Fixed-temperature heat detector

CORRECT ANSWER: B | Topic: Fire Detection

Photoelectric smoke detectors are better at detecting slow, smoldering fires because they sense the large particles produced by low-energy combustion. The light beam inside is scattered by smoke particles, triggering the alarm. Ionization detectors respond faster to fast-flaming fires with small combustion particles. (Reference: NFPA 72; Brauer Ch. 19)

Topic Area: HazMat — DOT Classification

Question 2

Under the DOT hazard classification system (49 CFR), Class 1 materials include:

A) Corrosives such as battery acid

✓B) Explosives such as dynamite and fireworks

C) Radioactive materials such as uranium ore

D) Flammable liquids such as gasoline

CORRECT ANSWER: B | Topic: HazMat — DOT Classification

DOT Class 1 covers Explosives, which are divided into 6 divisions (1.1 through 1.6) based on the type of explosive hazard (mass detonation, fire projection, minor explosion, etc.). Class 1 placards are orange. Class 3 = flammable liquids; Class 7 = radioactive; Class 8 = corrosives. (Reference: 49 CFR Part 173; Yates Ch. 29)

Topic Area: EPCRA / SARA Title III

Question 3

Which SARA Title III section requires facilities to immediately notify LEPC and SERC when a release of an Extremely Hazardous Substance exceeds the Reportable Quantity (RQ)?

A) Section 302

✓B) Section 304

C) Section 311

D) Section 313

CORRECT ANSWER: B | Topic: EPCRA / SARA Title III

EPCRA Section 304 requires immediate notification to the LEPC and SERC when a facility releases an Extremely Hazardous Substance (EHS) or CERCLA hazardous substance in an amount equal to or greater than the Reportable Quantity (RQ). Section 302 = TPQ notification; Sections 311-312 = SDS/inventory; Section 313 = TRI annual reporting. (Reference: EPCRA Section 304 — 40 CFR Part 355; Brauer Ch. 37)

Topic Area: Fire Suppression Systems

Question 4

A deluge sprinkler system differs from other sprinkler systems in that:

A) It requires two activation signals before releasing water

B) Its pipes are filled with pressurized nitrogen

✓C) All sprinkler heads are open simultaneously and discharge water when the system activates

D) It uses a fusible link at each individual head

CORRECT ANSWER: C | Topic: Fire Suppression Systems

A deluge sprinkler system has open heads (no fusible link) connected to a deluge valve. When a detection system activates the valve, water flows simultaneously through ALL open heads in the protected area. It is used where rapid total application of water is needed, such as aircraft hangars and high-hazard chemical storage. (Reference: NFPA 13; Brauer Ch. 19)

Topic Area: Fire Alarm Signaling

Question 5

The term 'Temporal Four' in fire alarm signaling refers to:

A) A four-alarm fire requiring multiple fire department companies

✓B) The signal pattern used for carbon monoxide alarms

C) The maximum number of emergency notification cycles

D) The four-component fire tetrahedron signal

CORRECT ANSWER: B | Topic: Fire Alarm Signaling

NFPA 72 Temporal-Four is a distinct audible signal pattern used specifically for carbon monoxide (CO) alarms. It uses 4 short pulses followed by a pause, repeated. This differentiates CO alarms from fire alarms (Temporal-Three) so occupants know what type of emergency is occurring. (Reference: NFPA 72; Brauer Ch. 37)

Topic Area: Incident Command System (ICS)

Question 6

Under ICS, what term describes the use of a common command structure when multiple agencies with different jurisdictions respond to the same incident?

✓A) Unified Command

B) Multi-Agency Coordination (MAC)

C) Emergency Operations Center (EOC)

D) Area Command

CORRECT ANSWER: A | Topic: Incident Command System (ICS)

Unified Command (UC) is the ICS structure used when multiple agencies share responsibility for an incident due to different jurisdictions, different functional responsibilities, or multi-jurisdiction scope. All agencies under UC maintain their authority while making joint decisions. This is distinct from Multi-Agency Coordination Systems (MACS) and Area Command. (Reference: FEMA NIMS; ICS; Brauer Ch. 36)

Topic Area: Fire Suppression Systems

Question 7

A pre-action sprinkler system is MOST appropriate for which type of occupancy?

A) Aircraft hangars requiring rapid total coverage

B) Outdoor loading docks subject to freezing temperatures

✓C) Data centers and museum archives where accidental discharge must be prevented

D) Commercial kitchens with cooking oil fires

CORRECT ANSWER: C | Topic: Fire Suppression Systems

Pre-action sprinkler systems require TWO independent events to occur before water discharges: (1) a detection device must activate to open the pre-action valve, AND (2) individual sprinkler heads must fuse from heat. This two-step requirement prevents accidental discharge, making it ideal for data centers, archives, and museums housing valuable or irreplaceable assets. (Reference: NFPA 13; Brauer Ch. 19)

Topic Area: HazMat — DOT Classification

Question 8

Which DOT hazard class covers oxidizers that can intensify a fire by releasing oxygen?

A) Class 2 (Gases)

B) Class 3 (Flammable Liquids)

C) Class 4 (Flammable Solids)

✓D) Class 5 (Oxidizers and Organic Peroxides)

CORRECT ANSWER: D | Topic: HazMat — DOT Classification

DOT Class 5 covers Oxidizers (Division 5.1) and Organic Peroxides (Division 5.2). Oxidizers contain oxygen in their molecular structure and release it when heated, significantly accelerating combustion. Examples include ammonium nitrate, hydrogen peroxide, and sodium nitrate. Placards are yellow. (Reference: 49 CFR Part 173; Yates Ch. 29)

Topic Area: Workplace Violence

Question 9

Healthcare workers face the greatest risk from which type of workplace violence?

A) Type I (Criminal Intent)

✓B) Type II (Customer/Client)

C) Type III (Worker-on-Worker)

D) Type IV (Personal Relationship)

CORRECT ANSWER: B | Topic: Workplace Violence

Healthcare workers face the greatest risk of Type II (Customer/Client) workplace violence because they regularly interact with patients, visitors, and families who may be in physical pain, emotionally distressed, mentally ill, or under the influence of substances. Healthcare settings account for approximately 60% of workplace assaults. (Reference: NIOSH/OSHA Workplace Violence; Yates Ch. 14)

Topic Area: Means of Egress

Question 10

A safety professional conducts a walkthrough and notes that certain escape routes are too narrow to accommodate all employees simultaneously during evacuation. Which NFPA standard most directly governs evacuation route requirements?

A) NFPA 10 (Portable Fire Extinguishers)

B) NFPA 13 (Sprinkler Systems)

C) NFPA 72 (Fire Alarm Code)

✓D) NFPA 101 (Life Safety Code)

CORRECT ANSWER: D | Topic: Means of Egress

NFPA 101 (Life Safety Code) governs means of egress requirements including minimum corridor widths, door swing directions, travel distances to exits, number of required exits, and occupancy load calculations. It establishes minimum dimensions to ensure all occupants can evacuate safely and quickly. (Reference: NFPA 101; Brauer Ch. 19)

Topic Area: Business Continuity Planning

Question 11

What is the primary distinction between Recovery Time Objective (RTO) and Recovery Point Objective (RPO) in business continuity planning?

A) RTO measures acceptable data loss; RPO measures maximum downtime

✓B) RTO measures maximum downtime; RPO measures acceptable data loss in time

C) RTO measures staffing levels; RPO measures financial recovery

D) RTO and RPO are equivalent measures of the same parameter

CORRECT ANSWER: B | Topic: Business Continuity Planning

RTO (Recovery Time Objective) measures the maximum acceptable duration of downtime before business functions must resume. RPO (Recovery Point Objective) measures the maximum acceptable amount of data loss measured in time (e.g., if RPO = 1 hour, the most recent backup must be no older than 1 hour). Both are determined through Business Impact Analysis (BIA). (Reference: Business Continuity Planning; Yates Ch. 22)

Topic Area: EPCRA / SARA Title III

Question 12

Under the EPCRA Tier II reporting requirement (Section 312), to which entities must facilities submit chemical inventory information?

A) EPA and OSHA only

✓B) Local Emergency Planning Committee (LEPC), State Emergency Response Commission (SERC), and local fire departments

C) National Response Center (NRC) only

D) Facility employees and neighboring residents

CORRECT ANSWER: B | Topic: EPCRA / SARA Title III

EPCRA Section 312 Tier II reports must be submitted annually by March 1 to three entities: (1) the Local Emergency Planning Committee (LEPC), (2) the State Emergency Response Commission (SERC), and (3) the local fire department. This information helps emergency planners understand what hazardous chemicals are present in their planning area. (Reference: EPCRA Section 312 — 40 CFR Part 370; Brauer Ch. 37)

Topic Area: Fire Classification

Question 13

A fire in a storage room containing combustible metal chips (magnesium shavings) would be classified as which fire class?

A) Class A

B) Class B

C) Class C

✓D) Class D

CORRECT ANSWER: D | Topic: Fire Classification

Class D fires involve combustible metals such as magnesium, titanium, sodium, potassium, and aluminum. These metals burn at extremely high temperatures and react violently with water, CO₂, and dry chemical agents. Class D fires require specialized dry powder agents specific to each metal type. (Reference: NFPA 10; Brauer Ch. 19)

Topic Area: Active Shooter Response

Question 14

The 'ALICE' acronym used in active shooter training stands for which sequence of actions?

A) Alert, Lock, Isolate, Counter, Escape

✓B) Alert, Lockdown, Inform, Counter, Evacuate

C) Alert, Lock, Inform, Counter, Evacuate

D) Alert, Lockdown, Identify, Call, Escape

CORRECT ANSWER: B | Topic: Active Shooter Response

ALICE training stands for Alert (notification of threat), Lockdown (secure in place; barricade), Inform (communicate threat location in real time), Counter (last resort — distract and disrupt attacker), and Evacuate (escape when safe to do so). ALICE does not prescribe a rigid sequence — it trains for decision-making based on situation. (Reference: ALICE Training Institute; OSHA Workplace Violence; Yates Ch. 14)

Topic Area: Fire Science

Question 15

Auto-ignition temperature (AIT) is defined as the temperature at which a material:

A) Produces sufficient vapor to ignite with an ignition source

B) Sustains combustion for at least 5 seconds

✓C) Ignites without any external ignition source

D) Decomposes and releases flammable gases

CORRECT ANSWER: C | Topic: Fire Science

Auto-ignition temperature (AIT) is the minimum temperature at which a substance will spontaneously ignite without an external ignition source (spark or flame). This is critical for storage and process design. AIT is always higher than both flash point and fire point for any given substance. (Reference: NFPA 30; Brauer Ch. 19)

Topic Area: Incident Command System (ICS)**Question 16**

Which section of the ICS structure is responsible for collecting, evaluating, and disseminating incident information and maintaining situation status?

A) Operations Section

B) Logistics Section

✓C) Planning Section

D) Finance/Administration Section

CORRECT ANSWER: C | Topic: Incident Command System (ICS)

The Planning Section is responsible for collecting and analyzing information to facilitate understanding of the current situation, preparing alternative strategies, and developing the Incident Action Plan (IAP). It maintains resource status and situation displays. Operations directs tactical activities; Logistics provides support and resources; Finance tracks costs. (Reference: FEMA ICS; NIMS; Brauer Ch. 36)

Topic Area: HazMat Response Zones**Question 17**

In HazMat incident response, what is the function of the Warm Zone (Contamination Reduction Zone)?

A) Primary incident command location and media staging area

✓B) Area where contaminated personnel and equipment are decontaminated

C) Most contaminated area where HazMat Technicians work

D) Perimeter surrounding the entire incident scene

CORRECT ANSWER: B | Topic: HazMat Response Zones

The Warm Zone (Contamination Reduction Zone) is the transition area between the Hot Zone (exclusion zone) and the Cold Zone (support zone). It is where decontamination of personnel, equipment, and victims occurs

before they can enter the clean Cold Zone. Personnel must upgrade or downgrade PPE when transitioning zones. (Reference: OSHA 29 CFR 1910.120; Yates Ch. 29)

Topic Area: Emergency Action Plans

Question 18

Which of the following is a REQUIRED element of an Emergency Action Plan (EAP) under 29 CFR 1910.38?

A) Procedures for mutual aid with neighboring facilities

✓B) A preferred method for reporting fires and other emergencies

C) A designated Emergency Operations Center (EOC)

D) Pre-negotiated contracts with local fire departments

CORRECT ANSWER: B | Topic: Emergency Action Plans

OSHA 29 CFR 1910.38 specifies required EAP elements including: preferred method for reporting fires and emergencies; evacuation procedures and route assignments; procedures for critical operation shutdown; employee headcount procedures; rescue and medical duties; and names/contacts of responsible persons. Mutual aid agreements and EOCs are best practices but not OSHA-required EAP elements. (Reference: OSHA 29 CFR 1910.38; Brauer Ch. 36)

Topic Area: Fire Detection

Question 19

Rate-of-rise heat detectors activate when:

A) Temperature exceeds a preset fixed level (e.g., 135°F)

✓B) Temperature rises more than 12°-15°F per minute

C) Smoke particles enter the detection chamber

D) Flame infrared radiation exceeds a threshold

CORRECT ANSWER: B | Topic: Fire Detection

Rate-of-rise heat detectors activate when the temperature increases faster than 12°-15°F per minute, indicating rapid fire development. They may not activate for slow-growing fires where the temperature gradually rises. Fixed-temperature detectors activate only when a set temperature threshold is exceeded, regardless of rate. (Reference: NFPA 72; Brauer Ch. 19)

Topic Area: Fire Suppression Systems

Question 20

Which sprinkler head type is designed for high-pile storage warehouses and delivers a high flow rate to suppress fires before they can spread?

A) Standard Response (SR) head

B) Intermediate sprinkler head

✓C) Early Suppression Fast Response (ESFR) head

D) Quick Response (QR) head

CORRECT ANSWER: C | Topic: Fire Suppression Systems

ESFR (Early Suppression Fast Response) sprinklers are designed specifically for high-pile storage warehouses. They have a low Response Time Index (RTI) and deliver a high flow rate (up to 40+ gpm per head) to rapidly suppress fires before they develop into large-scale events. They often eliminate the need for in-rack sprinklers. (Reference: NFPA 13; Brauer Ch. 19)

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