



UNIVERSITI KUALA LUMPUR
INSTITUTE OF MEDICAL SCIENCE TECHNOLOGY

FINAL EXAMINATION
MARCH 2025 SEMESTER

COURSE CODE : HRB40203
COURSE TITLE : EMERGENCY RESPONSE & PREPAREDNESS
PROGRAMME NAME : BACHELOR OF OCCUPATIONAL SAFETY & HEALTH (HONOURS)
DATE : 24 JUNE 2025
TIME : 9:00AM - 12:00PM
DURATION : 3 HOURS



INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of TWO sections.
4. Answer ALL questions for Section A.
5. Section B consist of four questions. Answer THREE (3) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Please answer MCQ/EMQ questions using OMR sheet. *Tick if applicable*
9. Refer to the attached Formula/ Appendies. *Tick if applicable*

THERE ARE 15 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

1. What are the TWO (2) characteristics of alarms especially for individuals with disabilities?
 - A. They must be silent and discrete.
 - B. They must be both seen and heard.
 - C. They must be complex and technologically advanced.
 - D. They must be colorful and melodious.

2. Which of the following substance is not considered as HAZMAT?
 - A. Fuels and its product.
 - B. Everyday household cleaning supplies.
 - C. Toxic chemicals.
 - D. Nuclear waste products.

3. Which of the following is listed as communication equipment in the ERT Equipment Inventory?
 - A. Emergency Lamp.
 - B. Walkie-talkies.
 - C. First Aid Kits.
 - D. Gas Detectors.

4. An ERT member must be physically and mentally fit due to which of these potential operational conditions?
 - A. Bad operation conditions such as dangerous environments.
 - B. Generously sized areas with excellent illumination.
 - C. Comfortable and under pressured environments.
 - D. Short and predictable working hours.

5. What does "EOC" stand for in the context of an Emergency Response Team?
 - A. External Operations Coordinator.
 - B. Evacuation Oversight Committee.
 - C. Equipment Organization Control.
 - D. Emergency Operations Center.

6. What distinguishes a Level 2 emergency from other levels?
 - A. It requires external assistance from mutual aid or district agencies.
 - B. It involves only financial losses.
 - C. It can be managed entirely with internal resources.
 - D. It is a minor incident requiring no immediate action.

7. According to Occupational Safety and Health Administration USA, which of the following is considered as a health hazard for hazardous materials?
 - A. Carcinogens, toxic agents, irritants, corrosives, sensitizers.
 - B. Materials that are only flammable.
 - C. Substances that are only transported by air.
 - D. Materials that are used in construction.

8. When caught in smoke during a fire, which action demonstrates understanding of proper breathing technique?
- A. Cover your mouth with your hands and walk normally.
 - B. Run quickly while holding your breath.
 - C. Stand upright and take deep breaths.
 - D. Crawl and take short breaths through the nose.
9. What does 'Environmental vulnerability' primarily refer to?
- A. Potential impacts of hazards on ecosystems and biodiversity.
 - B. The economic losses incurred due to environmental regulations.
 - C. The susceptibility of physical infrastructure to damage.
 - D. The impact of natural disasters on human populations.
10. If you are in a wheelchair during an earthquake, what action should you execute?
- A. Attempt to stand up and move to a doorway.
 - B. Evacuate the building immediately.
 - C. Roll quickly to an open space.
 - D. Lock your wheels and remain seated, protecting your head.
11. What is the definition of 'Physical Vulnerability'?
- A. Potential for physical impact on the physical environment.
 - B. Potential for social disruption in a community.
 - C. Potential for financial loss due to a hazard.
 - D. Potential impact on ecosystems and biodiversity.

12. When responding to a hazardous material incident, what is the purpose of flushing contaminated skin with water for at least fifteen minutes?
- A. To prevent clothing damage.
 - B. To prepare for medical attention.
 - C. To cool the skin.
 - D. To remove contaminants.
13. What is the fundamental characteristic of an 'Emergency'?
- A. A long-term crisis with no preparation and immediate solutions.
 - B. An unforeseen combination of circumstances requiring immediate action.
 - C. An event that is always predictable and planned for.
 - D. A sudden event causing minimal disruption and operation of organization.
14. When an earthquake occurs and you are driving, what action should you perform according to the guidelines?
- A. Continue driving to a safe location.
 - B. Immediately exit the vehicle and lie on the ground.
 - C. Drive to the nearest building for shelter.
 - D. Stop where safe, turn on hazard lights, and stay in your vehicle.
15. What is the main characteristic of an Emergency Response Team (ERT)?
- A. They are the first lines of defense in emergencies.
 - B. They are only involved in post-emergency cleanup.
 - C. They only provide administrative support during emergency.
 - D. They are primarily responsible for public relations.

16. When a volatile, flammable material is spilled, what initial action should you implement to prevent further hazards?
- A. Immediately clean it up with a mop.
 - B. Wait for a supervisor before taking any action.
 - C. Warn everyone, control ignition sources, and ventilate the area.
 - D. Cover the spill with a blanket.
17. If your clothes catch fire, the "STOP, DROP, AND ROLL" method aims to *smother* the flames. Which part of the action helps protect the face and lungs?
- A. Rolling on the ground.
 - B. Stopping in place.
 - C. Covering your face with your hands.
 - D. Dropping to the ground
18. If an individual is contaminated during a hazardous material incident, how should you apply the initial first aid steps?
- A. Cover the contaminated area with a bandage.
 - B. Wipe the contaminated area with a dry cloth.
 - C. Leave contaminated clothing on and wait for medical personnel to arrive.
 - D. Remove contaminated clothing immediately and flush the affected skin with water for at least fifteen minutes.
19. What should an Evacuation Map primarily designate with arrows?
- A. Locations of all fire extinguishers.
 - B. The nearest public transportation stops.
 - C. Areas for staff meetings.
 - D. The exit route assignments.

20. Why should you always use an exit stairwell instead of an elevator during a fire evacuation?
- A. Elevator shafts may fill with smoke or power may fail.
 - B. Stairwells offer a better view of the outside and full of fresh air.
 - C. Elevators are reserved for emergency personnel.
 - D. Elevators are usually too slow and require more electricity.
21. What is the crucial safety step before opening a door during fire incident to prevent further danger?
- A. Open the door slightly and listen.
 - B. Push the door open quickly.
 - C. Feel the door knob for heat
 - D. Shout for help behind the door.
22. What is the highest level of protection HAZMAT suit that offers total encapsulation, gas-tight, liquid-splash-protective, and vapor-protective?
- A. Level A Protection
 - B. Level C Protection
 - C. Level D Protection
 - D. Level B Protection
23. What is the purpose of decontamination in a hazardous material incident?
- A. To increase the spread of hazardous materials.
 - B. To only remove microorganisms.
 - C. To assess the effectiveness of personal protective equipment.
 - D. To prevent the spread of microorganisms and other noxious contaminants that may threaten health or damage the environment.

24. What is a key principle related to using personal protective equipment (PPE) in HAZMAT incidents?
- A. The highest level of PPE should always be used, regardless of the hazard.
 - B. PPE is only necessary for liquid hazards.
 - C. PPE selection is based on the specific hazards present and the tasks being performed.
 - D. Any level of PPE is sufficient for all hazards.
25. Fire Tetrahedron is an extension of Fire Triangle. What is the additional element that has been added to the traditional Fire Triangle?
- A. Carbon dioxide
 - B. Chain of Reaction
 - C. Water
 - D. Pressure
26. In what kind of locations are CO₂ Suppression Units typically applied?
- A. Server rooms with electrical instruments.
 - B. Areas with combustible metals.
 - C. Areas with ordinary combustibles like paper.
 - D. Kitchens with cooking oils.
27. What does PASS stand for when using a portable fire extinguisher?
- A. Push, Alert, Stand, Stop.
 - B. Protect, Activate, Secure, Spray.
 - C. Pull, Aim, Squeeze, Sweep.
 - D. Point, Advance, Sustain, Shut off.

28. Which RECEO tactical action aims to prevent the fire from spreading to uninvolved areas?
- A. Extinguishment
 - B. Confinement
 - C. Rescue
 - D. Exposure Control
29. What is the Flash Point of a liquid?
- A. The lowest temperature at which a liquid gives off enough vapor and ignitable.
 - B. The temperature at which a liquid freezes.
 - C. The temperature at which a liquid spontaneously ignites.
 - D. The temperature at which a liquid boils.
30. What is the primary purpose of an Emergency Evacuation Plan?
- A. To manage the incident at the emergency scene.
 - B. To train employees on first aid procedures during an emergency.
 - C. To ensure everyone safely exits and proceeds to a safe assembly area.
 - D. To identify potential hazards in the workplace and perform assessment to reduce risk.
31. Which duty is typically assigned to a 'Floor Marshal/Warden' during an emergency evacuation?
- A. To verify missing persons and coordinate with search and rescue.
 - B. To perform triage and provide first aid treatment.
 - C. To lead occupants to the safe exit and ensure all have evacuated.
 - D. In-charge of premise security and liaise with the local authority on the safety of the workplace.

32. Which of the following is a criterion for a 'Safe Assembly Area'?
- A. It should be a temporary gathering point without an alternative.
 - B. It should be located directly adjacent to the emergency scene.
 - C. It should obstruct emergency access for first responders.
 - D. It must have proper signage and line up markings.
33. For an unconscious and uninjured victim, which technique involves placing the victim's body on the rescuer's shoulders?
- A. Shoulder Drag
 - B. Darling Carry
 - C. Fireman Lift
 - D. Two Handed Seat
34. Which of the following is a role of the 'Security Team' during an emergency?
- A. To search and rescue victims.
 - B. To lead occupants to the safe exit and perform head counting at the evacuation assembly point.
 - C. To perform triage and provide first aid treatment.
 - D. To be in-charged of premise security and controlling traffic movements.
35. What is the primary purpose of establishing an Emergency Response Team (ERT) within an organization?
- A. To conduct daily safety inspections and perform audit based on the legal requirement.
 - B. To manage the initial stage of an emergency situation before external assistance arrives.
 - C. To replace external emergency services entirely.
 - D. To manage the organization's financial resources during a crisis.

36. What should NOT be done once the emergency alarm is triggered or you are told to evacuate?
- A. Re-enter until the emergency is declared over.
 - B. Proceed to the safe assembly area.
 - C. Stop all activities and shutdown all equipment.
 - D. Line up for head count.
37. What is the primary purpose of conducting fire drills annually?
- A. To familiarize occupants with alarms, exits, and emergency procedures.
 - B. To test the building's structural integrity and clearing out obstacle in the exit route.
 - C. To count the number of people in the building.
 - D. To practice fire suppression techniques and ensure alarm system in a good condition.
38. Which type of respirators offer protection against airborne particles but NOT against gases or vapors?
- A. Full-face mask respirators.
 - B. Air-purifying respirators.
 - C. Supplied-air respirators.
 - D. Self-contained breathing apparatus (SCBA).
39. Which term describes the highest concentration of a flammable gas or vapor in air that will burn or explode if ignited?
- A. Flash Point
 - B. Upper Explosion Limit (UEL)
 - C. Lower Explosion Limit (LEL)
 - D. Limiting Oxygen Concentration (LOC)

40. What is the main objective of conducting a 'Debriefing/Post Mortem' after an emergency?
- A. To immediately resume normal operations and identify the mitigation action.
 - B. To identify who was responsible for the incident.
 - C. To assign new roles and responsibilities to employees.
 - D. To formally review the incident and identify strengths and weaknesses.

SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

Question 1

A structure is nearing completion and external finishing works are being carried out. Without warning, a section of the scaffolding spanning approximately three floors (from the 30th to the 33rd floor) suddenly buckles and collapses. The failure causes a domino effect, pulling down workers, tools and construction materials. Debris, including heavy steel poles and timber planks, showers down onto the construction site below, impacting ground-level work areas and adjacent temporary structures.

- (a) Suggest FOUR (4) legislative documents that act as reference in the Emergency Response and Preparedness.

(10 marks)

- (b) Explain SIX (6) elements of Emergency Response and Preparedness.

(10 marks)

Question 2

A facility processes crude palm oil into various products and stores vast quantities of highly flammable refined palm oil in large storage tanks. During a routine transfer operation from a processing unit to a storage tank, a pump seal fails, causing a spray release of hot palm oil. Unfortunately, a fire incident quickly engulfs pump area and begins to spread to adjacent pipelines and small-to-medium sized storage tanks. The extreme heat causes a domino effect, threatening rupture and catastrophic failure of larger storage tanks nearby.

- (a) Explain FIVE (5) sources of ignition for fire formation.

(10 marks)

- (b) Plan the RECEO principle in the fire ground tactical procedure.

(10 marks)

Question 3

A multi-story shopping complex is undergoing extensive renovation. A large section of the third-floor slab in the central atrium of shopping mall area is collapse progressively. The collapse creates a massive void, kicking up a huge cloud of dust and debris. Numerous workers (both local and foreign) are involved in the demolition and renovation. Many are likely trapped under heavy concrete slabs, rebar, and equipment. The exact number is unknown, but screams and calls for help can be heard.

- (a) Explain FIVE (5) factors that need to be considered in the casualty handling.
(10 marks)
- (b) Propose TEN (10) appropriate casualty handling techniques for above emergency situation.
(10 marks)

Question 4

It is a hot and humid Friday afternoon, 3:30 PM, at a cold storage facility located within a busy industrial park on the outskirts of Kajang, Selangor. The facility uses a large and centralized hazardous material (HAZMAT), anhydrous ammonia (NH_3) refrigeration system. During routine maintenance on a compressor unit, a flange joint suddenly fails, resulting in a catastrophic release of gaseous Anhydrous Ammonia from a high-pressure line.

- (a) Plan the RECCO principle in HAZMAT Response Action.
(10 marks)
- (b) Based on the HAZMAT Command System, construct the Emergency Medical Technician (EMT) for the situation.
(5 marks)
- (c) Develop the Hazardous Emergency Response Control Zone.
(5 marks)

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END OF EXAMINATION PAPER

