Facilitator Guide Book

Basics of Emergency Response and Evacuation Preparedness.

Sector: - Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals and others.

Occupation: - Occupational Safety Health & Environment (OSHE) Engineering & Management

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The Facilitator Guidebook for Basics of Emergency Response and Evacuation Preparedness; SSD/M0107,developed by the Safety Skill Development Foundation (SSDF), reflects our commitment to industry requirement for the job role, best practices in the profession, quality training requirement, regulatory compliances, workplace safety, health and sustainable practices. This guide is enriched with insights from Subject Matter Experts (SMEs), trainers, and industry professionals, ensuring its relevance to real-world applications.

We extend our special thanks to CORE-EHS Solutions Pvt Ltd for their invaluable expertise and support in developing course materials, significantly enhancing the safety and quality aspects of this guide.

Our gratitude also goes to trainers, assessors, industry experts, government bodies, and sector skill councils for their contributions toward advancing occupational safety across industries, including Hydrocarbon, Iron & Steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals, and more.

The qualification is aligned with NSQF and this guide supports the Skill India initiative and is dedicated to trainers committed to excellence in skill development. SSDF welcomes feedback for continuous improvement

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About this Guide Book

The objective of this guide is to provide an approach map for interacting with trainees undergoing training in the Basics of Emergency Response and Evacuation Preparedness. The course aims to provide both theoretical and practical knowledge to the trainees and to guide them in understanding the fundamental aspects of blacksmith. This guide is neither a substitute nor a complete roadmap but serves as an aid to systematically impart knowledge on all aspects of the trade. It is expected that the trainer is fully conversant with all the contents of the guide. The guide indicates how to proceed in covering a topic and includes additional information that may be necessary for the trainer to develop a deeper comprehension of the following aspects

Knowledge and Understanding: Operational learning and safety measures specific to Basics of Emergency Response and Evacuation Preparedness work.

Performance Criteria: Developing the required skills through hands-on training and executing tasks within defined standards.

Professional Skills: The ability to make operational decisions related to the scope of work.

The job also involves assessing trainees' comprehension and helping them reinforce learning through practical application. However, it is essential to ensure that hands-on training aligns with the knowledge imparted and that adequate time is spent on each unit. Regardless of the region, the expectation is that trainees receive comprehensive instruction covering all aspects of Basics of Emergency Response and Evacuation Preparedness work.

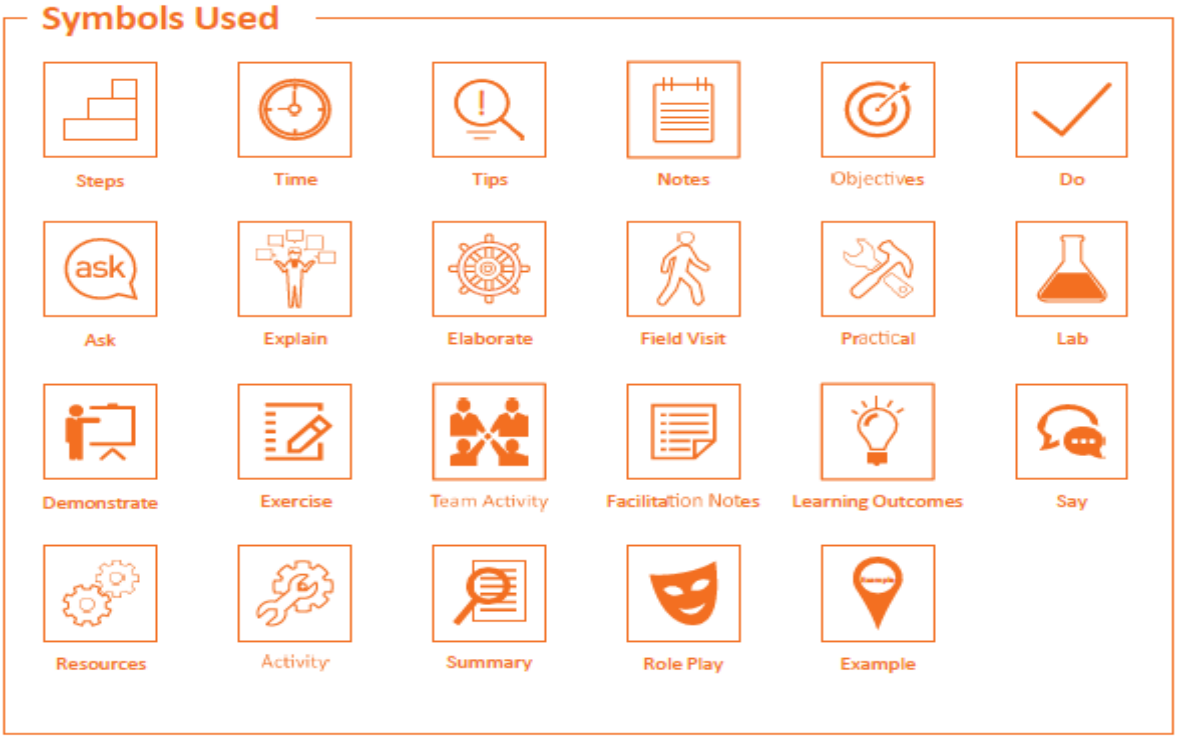
This Facilitator Guide is designed based on the Qualification Pack (QP) under the National Skill Qualification Framework (NSQF) and includes the following core and additional topics:

Occupational Safety
Health & Ergonomics Safety
Environmental Safety
General Safety
Digital Safety
Indian Regulations & Global Standards for OSHE

This guide focuses on the essential competencies required for safety in Basics of Emergency Response and Evacuation Preparedness work, such as safety protocols, regulatory standards, risk assessment, and operational procedures necessary to anticipate with emergency situation as per protocol at work sites. Trainers will be equipped to enhance the knowledge and skills required to play a vital role in ensuring safety in Basics of Emergency Response and Evacuation Preparedness work across various industries.

By mastering the core principles of Basics of Emergency Response and Evacuation Preparedness work safety, trainers can effectively educate trainees on risk minimization, compliance with safety regulations, and proper operational procedures to maintain a safe working environment for all workers involved in Basics of Emergency Response and Evacuation Preparedness related activities.

Symbols Used



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Contents

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1. Unit 1 Introduction

1.1. Key Learning Outcomes

At the end of this module, the trainees will be able to:

1. Emergency situations, associated risks, strategies to mitigate risks and minimize losses.
2. Immediate steps under emergency situations and emergency responses evacuations.
3. Evacuation and minimization of losses in terms of human life, injuries, documents or assets.
4. Equipment's for emergencies, PPEs & first aid facilities
5. Communication channels & effective emergency protocols.

1.1.1. Unit Objectives

At the end of this unit, students will be able to:

1. Describe about the Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals and others sector in India
2. Describe about the Basic Emergency Response and Evacuation Preparedness works.

1.1.2. Resources to be used

- Available objects such as Projection screen, whiteboard, projection screen, laptop, speaker, notebook, pen, participant handbook, etc
- Flip chart
- Attendance sheet
- Activities (role plays and games)

1.1.3. Ask

- Ask the participants to share their expectations from the program
- What do you understand about the Basic Emergency Response and Evacuation Preparedness?
- Do you know emergency communication Protocol?
- What is Evacuation, Assembly Point?

1.1.4. Do

- Introduce yourself to the participants.
- Give an overview of the program to the participants - duration of the program, objective etc.
- Give an overview of the Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals and others sector and Basic Emergency Response and Evacuation Preparedness.

1.1.5. Explain

- Describe about Basic Emergency Response and Emergency Preparedness.
- Describe about Application in Different sector.
- Describe about Evacuation, Signages, Protocol, Communication etc.

1.1.6. Tips

- Go slow with information flow with participants.
- Observe each participant's body language.
- Keep a positive and supportive approach towards the candidates

1.1.7. Activity: Team Spot

- Separate the class in 2 different teams.
- Each team will be assigned with Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals and others sector topics
- Ask them to present the given topics team after team, and state examples individually to explain

1.1.8. Notes for Facilitation

- Revise the important points discussed in this unit.
- Clear the doubts of the students, if any. Encourage them to ask questions.

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- Discuss the question with the class and answer their queries satisfactorily.
- Help participants identify how to apply the skills taught in the course to their work
- Praise participants and the group on improving their performance and developing new skills.
- Encourage participants to move through the initial difficulties of learning new skills, by focusing
- on steps in their progress and the importance of what they are learning to do.

1.1.9. Summary

1. Hydrocarbon (Oil & Gas)

- **Overview**: Involves exploration, extraction, refining, and distribution of oil and natural gas.
- **Key Activities**: Upstream (exploration & production), midstream (transportation), downstream (refining & marketing).
- **Importance**: Major global energy source; critical for transportation, heating, and as feedstock for chemicals.

2. Iron & Steel

- **Overview**: Production of iron and steel from raw materials like iron ore, coal, and limestone.
- **Key Activities**: Mining, smelting, alloying, casting, rolling.
- **Importance**: Backbone of industrial infrastructure—used in construction, transportation, machinery, etc.

3. Mining

- **Overview**: Extraction of minerals, metals, and other geological materials from the earth.
- **Key Products**: Coal, metals (e.g., gold, copper), rare earths, limestone.
- **Importance**: Provides raw materials for multiple industries (e.g., metals for construction, coal for power).

4. Power (Energy Generation)

- **Overview**: Production and distribution of electricity from various sources (thermal, hydro, nuclear, renewable).
- **Key Types**: Thermal (coal/gas), hydroelectric, nuclear, solar, wind.
- **Importance**: Essential for modern living, industry, and economic development.

5. Automotive

- **Overview**: Design, manufacturing, and sale of motor vehicles.
- **Key Segments**: Passenger cars, commercial vehicles, electric vehicles.
- **Importance**: Major employer; drives demand in steel, electronics, rubber, and fuel sectors.

6. Construction

- **Overview**: Building infrastructure such as residential, commercial, and industrial projects.
- **Key Activities**: Civil engineering, real estate development, infrastructure projects.
- **Importance**: Indicator of economic growth; supports multiple upstream industries like cement and steel.

7. Chemicals & Petrochemicals

- **Overview**: Production of chemicals and materials from raw substances (often hydrocarbons).
- **Key Products**: Plastics, fertilizers, synthetic fibres, industrial chemicals.
- **Importance**: Supports agriculture, healthcare, manufacturing, and daily consumer goods.

8. Others (can include various sectors)
Examples:

- **Pharmaceuticals** – Drug and vaccine production.
- **Textiles** – Fabric and clothing manufacturing.
- **Information Technology** – Software and digital services.

Importance: Diverse sectors contribute to economic balance, innovation, and employment.

1.1.10. Exercise

1. What is the first action you should take when you hear the fire alarm in a building?
A. Look for the source of the fire
B. Collect your personal belongings
C. Evacuate the building immediately using the nearest exit
D. Call your supervisor for instructions
Correct Answer: C. Evacuate the building immediately using the nearest exit

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2. Which of the following is the most important reason for participating in regular emergency drills?
A. To impress management with your speed
B. To avoid penalties for non-compliance
C. To ensure you know what to do during a real emergency
D. To test the building's alarm system
Correct Answer: C. To ensure you know what to do during a real emergency

3. You should always use elevators during a fire evacuation to exit the building quickly.
Answer: False
(Elevators should not be used during a fire; use stairways instead)

4. Knowing the location of emergency exits and assembly points is a key part of evacuation preparedness.
Answer: True
(Familiarity with exits and assembly points ensures a faster and safer evacuation.)

5. During an evacuation, always follow the _____ signs to reach the nearest safe exit.
Answer: emergency exit

6. The designated area where employees gather after evacuating a building is called the _____ point.
Answer: assembly

1.2. Assess the potential outcomes of emergencies, with a focus on possible injury, damage, and effects.

1.2.1. Unit Objectives

At the end of this unit, students will be able to:

- Evaluate the potential for **human injury or fatality**, including severity and likelihood.
- Assess the **possible damage to property**, equipment, and infrastructure.
- Analyse the **impact on business operations**, including downtime, financial losses, and productivity disruption.
- Understand the **environmental consequences**, such as pollution or contamination.
- Recognize the **emotional and psychological effects** on employees and first responders.

1.2.2. Resources

- Whiteboard, erasable marker, board cleaner, projection screen, laptop, speaker, notebook, pen, participant handbook, etc
- Flip chart
- Participant Manual
- Projection screen and PowerPoint presentations.
- Activities (role plays)

1.2.3. Say

- Why assessing outcomes is important in Basic Emergency Response and Evacuation Preparedness.
- What are the possible injury as per situation and act.
- What are the impact and effect of in terms of social and environment by emergency situation.

1.2.4. Explain

- Describe about outcomes is important in Basic Emergency Response and Evacuation Preparedness.
- Describe about possible injury as per situation and act.
- Describe about impact and effect of in terms of social and environment by emergency situation.

1.2.5. Activity

Display images or short video clips of a Emergency arrived at site.

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Have students work in small groups to identify at least five possible outcomes in terms injury. Each group writes down their findings on a paper.

1.2.6. Notes for Facilitation

- Explain the video of emergency arrived at site.
- Ask participants if they have any doubts. Encourage them to ask questions.
- Answer questions, as needed, providing concrete and brief answers.
- Tell participants to complete the questions at the end of the unit.
- Ensure that every participant answers all the questions.

1.2.7. Summary

Assessing the potential outcomes of emergencies involves understanding the wide-ranging impacts that unexpected incidents can have on people, property, and operations. The primary focus is on identifying and evaluating possible **injuries to personnel**, which can range from minor to life-threatening, depending on the nature of the emergency (e.g., fire, explosion, chemical spill).

In addition to human harm, emergencies can cause significant **damage to buildings, equipment, and infrastructure**, potentially leading to high repair or replacement costs. Disruption to normal operations can result in **financial losses**, reduced productivity, and interruptions to service delivery or supply chains.

Other effects may include **environmental harm** (e.g., chemical leaks polluting air or water), **emotional and psychological stress** on employees, and the need for **external emergency support**. By assessing these potential outcomes, organizations can better prepare, implement effective response plans, and reduce the overall impact of emergencies.

1.2.8. Exercise

1. Which of the following is a possible human impact of a workplace emergency?
A. Increase in product sales
B. Employee injuries or fatalities
C. Reduced office noise levels
D. Higher staff attendance
Correct Answer: B. Employee injuries or fatalities

2. What is one potential consequence of not assessing the outcomes of emergencies in advance?
A. Improved employee morale
B. Faster production cycles
C. Greater damage and uncoordinated emergency response
D. Reduced insurance premiums
Correct Answer: C. Greater damage and uncoordinated emergency response

3. Assessing potential emergency outcomes helps in minimizing injuries and damage during actual incidents.
Answer: True

4. Emergencies only affect physical infrastructure and have no impact on employee well-being or business operations.
Answer: False

5. One of the primary goals of emergency outcome assessment is to reduce the risk of _____ to employees.
Answer: injury

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6. Failure to assess emergency risks can lead to significant _____ to property and business operations.
Answer: damage

1.3. Workout emergency arrangements, PPEs, medical assistance & first aid facilities and communication protocols.

1.3.1. Unit Objectives

At the end of this unit, students will be able to:

- Identify and implement **emergency arrangements** to ensure safe and efficient evacuation or response during emergencies.
- Understand the selection, use, and maintenance of appropriate **Personal Protective Equipment (PPE)** for different types of hazards.
- Describe the procedures for accessing **medical assistance and first aid facilities** during an emergency.
- Recognize the importance of establishing clear and effective **communication protocols** for internal coordination and external emergency response services.

1.3.2. Resources

- Whiteboard, erasable marker, board cleaner, projection screen, laptop, speaker, notebook, pen, participant handbook, etc
- Flip chart
- Participant Manual
- Projection screen and PowerPoint presentations.
- Activities (role plays)

1.3.3. Say

- Which arrangement are to be kept to deal emergency?
- How PPE play role in emergency situation?
- How first aid to be provided to injured?
- What is role of communication protocol during emergency?

1.3.4. Explain

- Describe arrangement are to be kept to deal emergency.
- Explain PPE play role in emergency situation.
- Describe How first aid to be provided to injured
- Tell importance of communication protocol during emergency.

1.3.5. Activity

Step 1: Scenario Setup (10–15 minutes)
Choose a realistic emergency scenario (e.g., fire outbreak, chemical spill, or injured worker incident). Brief the group on the situation.

Step 2: Team Assignments
Divide participants into roles:

- **Evacuation Leader**
- **First Aid Responder**

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- **PPE Monitor**
- **Emergency Communicator**
- **Observer (to evaluate performance)**

Step 3: Perform the Drill (15–20 minutes)
Participants carry out the drill according to the scenario:
- Use mock **PPEs** appropriately.
- Assist “injured” person with **basic first aid** using a demo kit.
- Communicate with "emergency services" using a designated **communication protocol** (radio, phone, etc.).
- Evacuate all personnel to the **assembly point**.
- Ensure all steps follow the **emergency arrangement plan**.

Step 4: Debrief and Discussion (10–15 minutes)
Discuss:
- What went well?
- What could be improved?
- Was the communication clear?
- Were PPEs and first aid accessible and used correctly?

Learning Outcomes:
- Reinforce real-time decision-making in emergencies.
- Demonstrate proper PPE usage and first aid.
- Highlight the importance of clear communication and predefined roles.
- Evaluate the effectiveness of existing emergency plans.

1.3.6. Notes for Facilitation

- Summarize the important points and terms explained in the session.
- Ask participants if they have any doubts. Encourage them to ask questions.
- Answer questions, as needed, providing concrete and brief answers.
- Tell participants to complete the questions at the end of the unit.
- Ensure that every participant answers all the questions.

1.3.7. Summary

Effective emergency preparedness involves a coordinated approach to ensure safety and quick response during incidents. **Emergency arrangements** include clearly defined evacuation routes, assembly points, and roles assigned to personnel to manage emergency situations efficiently.
Personal Protective Equipment (PPE) is vital for safeguarding workers from specific hazards during emergencies. Proper selection, usage, and maintenance of PPE are essential to minimize the risk of injury or exposure to harmful substances.
Access to **medical assistance and first aid facilities** is critical in providing immediate care to injured individuals. Well-stocked first aid kits, trained first aiders, and quick coordination with medical services can greatly reduce the severity of injuries.
Clear **communication protocols** ensure that all personnel are informed, guided, and supported during emergencies. This includes internal communication between team members and external communication with emergency services.
Together, these components form the backbone of a reliable emergency response system, helping to save lives, reduce property damage, and restore normal operations swiftly.

1.3.8. Exercise

1. What is the primary purpose of Personal Protective Equipment (PPE) during an emergency?
A. To identify employees during an emergency
B. To enhance comfort during work

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C. To protect workers from specific hazards and injuries
D. To replace the need for evacuation
Correct Answer: C. To protect workers from specific hazards and injuries

2. Why are communication protocols important during an emergency?
A. To increase the workload of employees
B. To ensure accurate and timely information is shared among responders and personnel
C. To delay evacuation until further notice
D. To reduce the use of emergency alarms
Correct Answer: B. To ensure accurate and timely information is shared among responders and personnel

3. First aid facilities and trained personnel should only be available during high-risk operations.
Answer: False
(First aid facilities and trained personnel should be available at all times, regardless of risk level.)

4. Clear communication protocols during emergencies help reduce confusion and improve response time.
Answer: True

5. _____ are worn to protect individuals from specific hazards during emergency situations.
Answer: Personal Protective Equipment (PPE)

6. An effective emergency response requires clear and reliable _____ to ensure everyone receives accurate instructions.
Answer: communication

1.4. Execute emergency response procedures, evacuation procedures, marking of routes, identification of assembly areas & correct utilization of emergency equipment, and effective coordination.

1.4.1. Unit Objectives

At the end of this unit, students will be able to understand:

- Effectively **execute emergency response procedures** to ensure safety during various types of emergencies.
- Conduct organized **evacuation procedures**, ensuring timely and safe exit from hazardous areas.
- Understand the importance of **clear marking of evacuation routes** for efficient navigation during emergencies.
- Identify and utilize designated **assembly areas** as safe gathering points post-evacuation.
- Demonstrate the **correct utilization of emergency equipment**, including fire extinguishers, alarms, and first aid kits.
- Apply principles of **effective coordination and communication** among team members and emergency services to optimize response efforts.

1.4.2. Resources

- Whiteboard, erasable marker, board cleaner, projection screen, laptop, speaker, notebook, pen, participant handbook, etc
- Flip chart
- Participant Manual
- Projection screen and PowerPoint presentations.

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- Activities (role plays)

1.4.3. Say

- What are emergency response procedure?
- How to evacuate work location in emergency situation?
- Why its important to fallow warning and emergency signage?
- What is assembly point and what to do on assembly point?
- How co-ordination is important to work effectively in emergency situation?

1.4.4. Explain

- Describe about emergency response procedure.
- Describe How to evacuate work location in emergency situation.
- Describe how to fallow warning and emergency signage.
- Describe Assembly point and what to do on assembly point
- Tell hoe to co-ordinate and work in team.

1.4.5. Activity

Activity Name:
"Operation Safe Exit" – Emergency Response Simulation

Participants:
All employees/staff divided into teams (e.g., by department or floor)

Activity Steps:
1. Briefing Session (15 minutes)
Explain the objectives and importance of emergency preparedness.
Review:

- Emergency alarm
- Emergency response procedures
- Evacuation protocols
- Marked escape routes and signage
- Assembly points
- Emergency equipment (e.g., fire extinguisher, first aid kits, alarms)
- Roles of emergency coordinators

2. Assign Roles (5 minutes)

- Emergency Coordinator
- First Aiders
- Route Leaders
- Equipment Handlers
- Headcount Officers

3. Execute Emergency Scenario (30 minutes)
Trigger a **mock emergency**, by siren

- Fire outbreak

Tasks:

- Evacuate using **marked routes**
- Use appropriate **emergency equipment** (e.g., simulate extinguishing a fire)
- Guide people to assemble on **designated assembly areas**
- Take **headcounts**
- Communicate with the emergency team and respond to missing persons or injured (simulated)

4. Debrief and Evaluation (20 minutes)

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Review team performance:

- Time taken to evacuate
- Route adherence
- Clarity of markings and signage
- Functionality and correct use of equipment
- Coordination and communication
- Discuss lessons learned and areas for improvement

Success Criteria:

- 100% of participants reach the correct assembly point
- Emergency equipment used safely and correctly
- All communication and coordination roles fulfilled effectively
- Drill completed within a safe and reasonable time frame

1.4.6. Notes for Facilitation

- Summarize the important points and terms explained in the session.
- Ask participants if they have any doubts. Encourage them to ask questions.
- Answer questions, as needed, providing concrete and brief answers.
- Tell participants to complete the questions at the end of the unit.
- Ensure that every participant answers all the questions.

1.4.7. Summary

Executing effective **emergency response procedures** is critical to ensuring the safety of all personnel during incidents such as fires, natural disasters, chemical spills, or other emergencies. A well-structured emergency plan includes the following key components:

1. **Emergency Response Procedures:**
   Clear, predefined actions must be taken immediately during an emergency. These include sounding alarms, notifying emergency services, and activating internal response teams. Everyone should understand their roles and responsibilities.
2. **Evacuation Procedures:**
   Evacuation plans should detail how people exit buildings or danger zones safely and quickly. Drills help ensure that individuals are familiar with the process and can evacuate calmly and efficiently.
3. **Marking of Routes:**
   All emergency exit routes must be clearly marked with visible signs and lighting. These paths should be kept unobstructed at all times to allow for a smooth evacuation.
4. **Identification of Assembly Areas:**
   Safe, designated assembly points must be located at a sufficient distance from danger zones. These areas are used to account for personnel and receive further instructions after evacuation.
5. **Correct Utilization of Emergency Equipment:**
   Personnel should be trained in the use of emergency equipment such as fire extinguishers, first aid kits, and emergency communication tools. Equipment should be accessible, regularly maintained, and clearly labelled.
6. **Effective Coordination:**
   Coordination among staff, emergency response teams, and external responders (like fire services or medical teams) is essential. Clear communication and designated roles ensure a unified, effective response.

1.4.8. Exercise

1- What is the primary purpose of identifying and marking emergency evacuation routes in a facility?

A) To increase workplace aesthetics
B) To guide employees safely to exits during an emergency
C) To comply with fire extinguisher usage guidelines
D) To provide information for visitors about company layout
Correct Answer: B) To guide employees safely to exits during an emergency

2 - Which of the following is essential for effective coordination during an emergency evacuation?

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A) Playing background music to keep employees calm
B) Locking unused doors to prevent entry
C) Assigning roles such as route leaders and headcount officers
D) Allowing employees to choose their own evacuation path
Correct Answer: C) Assigning roles such as route leaders and headcount officers

3 - All employees should be trained to use emergency equipment such as fire extinguishers and first aid kits. (Answer: True)

4 - During an evacuation, it is acceptable to ignore marked routes if a shorter path is known. (**Answer: False)**

5 - Emergency evacuation routes must be clearly _____ and kept free of obstructions at all times.
(**Answer: marked)**

6 - A designated _____ area is where all personnel must gather after evacuating the building to ensure everyone is accounted for.
(**Answer: assembly)**