

Facilitator Guidebook

Safety Steward



Safety Steward

Sector:- Cross Sectoral

Sub-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 **Safety Steward, SSD/Q0101**, 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 increasing focus on safety across various industries is driving a surge in the demand for qualified Safety Steward. This heightened need is resulting in a greater requirement for trained professionals in the field. As a result, there is an escalating necessity for trainers to prepare individuals with the essential skills to become competent Safety Steward.

This Facilitator Guide is designed for providing skill training and /or upgrading the knowledge level of the Trainees to take up the job of an “Trainer” in the Cross Sectoral Sector.

This Facilitator Guide is designed based on the Qualification Pack (QP) under the National Skill Qualification

framework (NSQF) and it comprises of the following National Occupational Standards (NOS)/topics and additional topics.

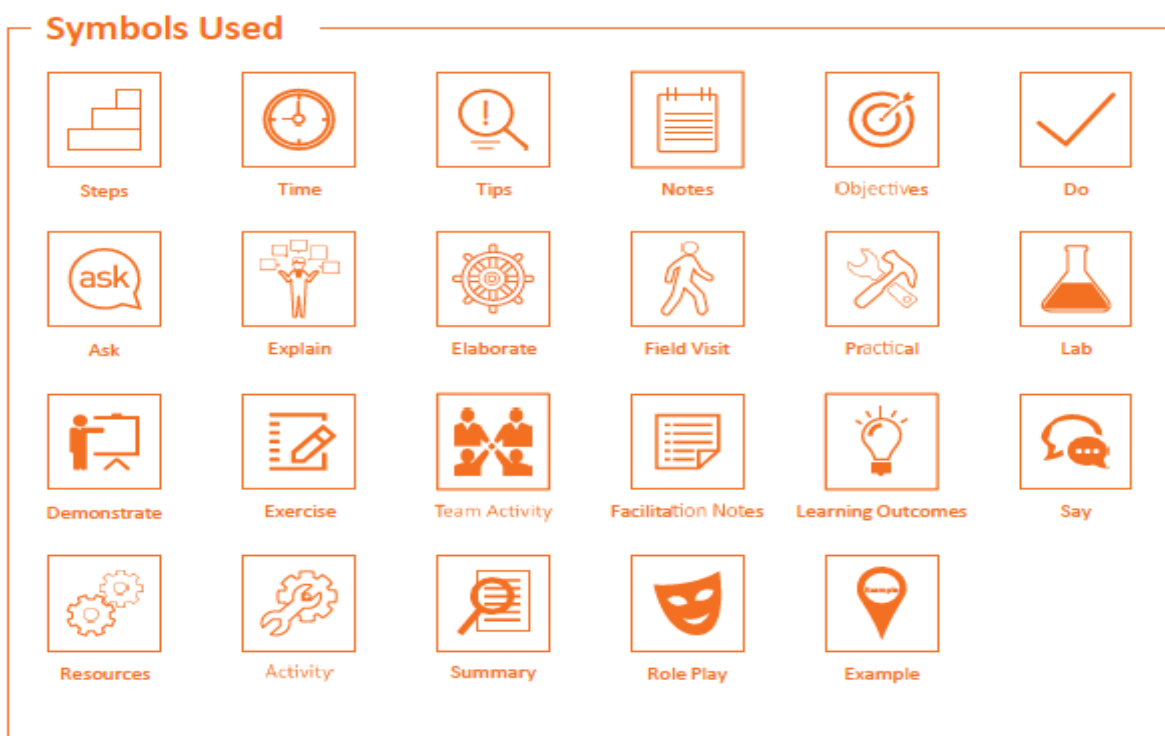
1. **SSD/VSQ/N0101: Occupational Safety In Industries**
2. **SSD/VSQ/N0102: Fire Safety and Evacuation plan**
3. **SSD/VSQ/N0103: Hazard Identification and Risk Assessment**
4. **SSD/VSQ/N0104: Plan, Organize and Emergency protocols**
5. **SSD/VSQ/N0105: Introduction to Safety Regulations**
6. **DGT/VSQ/N0102: Employability Skills (60 Hours)**

The guidebook provides detailed insights on how facilitators can engage with participants, assess their training requirements, and convey essential concepts pertaining to Occupational Safety Health & Environment management System (**OSHEMS**). It guarantees that facilitators address all necessary subjects effectively, achieving the training goals within the allotted time.

At the start of each unit, key learning objectives for each National Occupational Standard (NOS) are presented, assisting facilitators in navigating the training process. Additionally, the symbols utilized in this guidebook are clarified to enhance facilitators' comprehension of the materials.

This guidebook serves as an extensive resource for trainers, ensuring they are adequately prepared to conduct effective safety audit training.

Symbols Used



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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:

- Describe Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals
- Describe roles and responsibility of Safety Steward

1.2. Unit 1.1: Overview of the Industry

1.2.1. Unit Objectives

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

1. Describe about the Hydrocarbon sector in India
2. Describe about the Iron & Steel sector in India
3. Describe about the Mining sector in India
4. Describe about the Power sector in India
5. Describe about the Automotive sector in India
6. Describe about the Construction sector in India
7. Describe about the Chemicals & Petrochemicals in India
8. Describe how each sub-sector contributes to skill development
9. Compare the job potential of all sub-sectors

1.2.2. 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)

1.2.3. Ask

- Ask the participants to share their expectations from the program
- Ask them to tell what they know about the Hydrocarbon sector, Iron & Steel sector, Mining sector, Power sector, Automotive sector, Construction sector, Chemicals & Petrochemicals
- What is the 'Make-in-India' initiative?

1.2.4. 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 sector, Iron & Steel sector, Mining sector, Power sector, Automotive sector, Construction sector, Chemicals & Petrochemicals sector in India.

1.2.5. Explain

List the major segments in the Hydrocarbon sector, Iron & Steel sector, Mining sector, Power sector, Automotive sector, Construction sector, Chemicals & Petrochemicals sector

1.2.6. Tips

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

1.2.7. Activity: Team Spot

- Separate the class in 2 different teams.
- Each team will be assigned with 3 different sector topics
- Ask them to present the given topics team after team, and state examples individually to explain

1.2.8. Notes for Facilitation

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

1.2.9. Summary

- **Hydrocarbon:** The hydrocarbon sector involves the extraction, refinement, and distribution of oil and natural gas. This sector plays a crucial role in energy production and the global economy, providing fuel and raw materials for various industries.
- **Iron & Steel:** The iron and steel sector is fundamental to industrial development. It focuses on producing metal alloys used in manufacturing, construction, and infrastructure. This sector is key to building economies and supporting technological advancements.
- **Mining:** The mining industry is concerned with extracting valuable minerals and materials from the earth. It provides essential raw materials for industries like construction, energy production, and manufacturing.
- **Power:** The power sector includes the generation, transmission, and distribution of electricity. This sector is vital to economic development and daily life, powering homes, businesses, and industries through a variety of sources such as coal, natural gas, renewables, and nuclear energy.
- **Automotive:** The automotive sector involves the design, production, and distribution of motor vehicles, including cars, trucks, and motorcycles. It is a significant driver of technological innovation and economic activity globally.

- **Construction:** The construction sector is involved in the building and infrastructure development of residential, commercial, and industrial projects. It supports urbanization and economic development by creating critical infrastructure such as roads, bridges, and buildings.
- **Chemicals & Petrochemicals:** This sector deals with the production of chemicals, fertilizers, and petrochemical products derived from petroleum. It plays a crucial role in manufacturing various goods such as plastics, pharmaceuticals, and industrial chemicals.
- A Safety Auditor assesses workplace safety practices, identifies hazards, ensures compliance with safety regulations, and recommends improvements to prevent accidents and ensure a safe working environment.

1.2.10. Exercise

1. Which of following is the most common cause of accidents in hydrocarbon sector?
 - A. Equipment Failure
 - B. Human Error
 - C. Natural Disasters
 - D. Fire
2. Routine inspections and maintenance are crucial for preventing accidents in oil and gas pipeline.(T/F)
3. Which of the following is major hazard in steel industry?
 - A. Noise Pollution
 - B. High Temperature
 - C. Exposure to Hazardous Substance
 - D. All the above
4. Proper PPE is essential for Workers handling molten metal.(T/F)
5. What is most common cause of fatalities in underground mines?
 - A. Rock Falls
 - B. Explosion
 - C. Flooding
 - D. Electrical Hazards

1.3. Unit 1.2: Roles and Responsibilities of a Safety Steward

1.3.1. Unit Objectives

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

1. Identify roles and responsibilities of Safety Steward
2. Identify essential skills of Safety Steward

1.3.2. 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)

1.3.3. Ask

- Ask the participants to share their expectations from the program

1.3.4. Do

- Give a brief introduction on the job description of Safety Steward outlining their personal attributes to the participants
- Provide the participants with a List of Roles and Responsibilities of Safety Steward
- Talk about the skills and knowledge which are essential to become a Safety Steward

1.3.5. Explain

Describe about the roles and responsibility of Safety Steward

1.3.6. Tips

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

1.3.7. Activity: Team Spot

- Separate the class in 2 different teams.
- Each team will be assigned with topics - Roles and responsibilities of Safety Steward
- Ask them to present the given topics team after team, and state examples individually to explain

1.3.8. Notes for Facilitation

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

1.3.9. Summary

- **Monitor Workplace Safety:** Ensure compliance with safety regulations and standards in the workplace.
- **Conduct Safety Inspections:** Regularly inspect work areas for hazards, unsafe conditions, and potential risks.
- **Promote Safety Practices:** Educate employees on safety policies, procedures, and the proper use of protective equipment.
- **Report Unsafe Conditions:** Immediately report any safety hazards or incidents to management and recommend corrective actions.

- **Assist in Emergency Situations:** Be prepared to take action in case of accidents, fires, or other emergencies, including evacuations.
- **Maintain Safety Equipment:** Ensure the availability and functionality of safety equipment, such as fire extinguishers, first aid kits, and PPE.
- **Conduct Safety Training:** Provide or organize regular safety training and awareness programs for all employees.
- **Ensure PPE Compliance:** Monitor employees' adherence to wearing personal protective equipment (PPE) in hazardous areas.
- **Facilitate Safety Meetings:** Participate in or organize regular safety meetings to review safety performance and address concerns.
- **Document Safety Incidents:** Record and report any safety-related incidents or near misses to help improve workplace safety policies.
- **Encourage a Safety Culture:** Foster a culture of safety and encourage employees to follow best practices for their well-being.

1.3.10. Exercise

1. What is the primary responsibility of a Safety Steward?

- a) To manage office supplies
- b) To monitor and ensure workplace safety
- c) To handle employee payroll
- d) To supervise employee performance

2. Which of the following is NOT a duty of a Safety Steward?

- a) Conducting regular safety inspections
- b) Ensuring employees wear PPE
- c) Reporting safety hazards to management
- d) Managing the company's finances

3. A Safety Steward should conduct regular _____ to identify hazards and unsafe conditions.

4. It is the responsibility of the Safety Steward to ensure that employees are using the appropriate _____ when working in hazardous areas.

5. In case of a workplace accident, the Safety Steward must immediately _____ the incident to management and recommend corrective actions.

6. True or False: The Safety Steward only needs to perform safety inspections once a year.

7. True or False: Safety Stewards should report unsafe conditions to management as soon as they are identified.

8. True or False: A Safety Steward is not responsible for the availability and maintenance of first aid kits in the workplace.

2. Unit 2 NOS 1: SSD/VSQ/N0101: Occupational Safety In Industries

2.1.Key Learning Outcomes

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

- Understand health and safety requirements.
- Understand the direct and indirect financial losses of an organization because of an accident.
- Set organizational Health and Safety goals and objectives.
- Manage risk by developing a positive safety culture.
- Channelize proper mode of accident and incident reporting.
- Onboard and manage contractors to comply with statutory requirements in occupational H and S.
- Understand and conduct training.

2.2.Unit 2.1: Health & Safety at workplace

2.2.1. Unit Objectives

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

- Understand the concept of Health, Safety and Environment management at the workplace, its importance and the moral, financial and legal reasons for health and safety at the workplace.
- Understand “Accident Cost- Iceberg” theory of direct and indirect cost incurred from an incident.
- Understand the employer responsibilities in providing safe working conditions and the employee rights & responsibilities at a workplace, safety culture, its indicators and role of International Labour Organisation in health & safety.
- Understand safety Policy, the general statement of intent in a safety policy, its aim, objectives and “SMART” concept of goal setting

2.2.2. 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)

2.2.3. Say

- What is Health, Safety and Environment management
- Why Safety?
- Describe “Accident Cost- Iceberg” theory
- What is Employer’s responsibilities
- What is safety Policy

2.2.4. Explain

- Describe Health, Safety and Environment management and its component
- Describe Accident Cost- Iceberg” theory
- Describe Employer’s responsibilities
- Describe employee rights & responsibilities at a workplace
- Describe safety culture & its indicators
- Describe role of International Labour Organisation in health & safety
- Describe safety Policy

2.2.5. Activity

Health & Safety at the Workplace

- Distribute the Iceberg Diagram to each participant or group.
- Ask participant to break down the costs of an accident into direct and indirect costs based on the Iceberg Theory.
- Direct costs: Medical expenses, workers' compensation, repairs, etc.
- Indirect costs: Lost productivity, training costs for replacements, damage to reputation, legal fees, etc.

2.2.6. Role-Playing Exercise:

- Divide the class into pairs. One person will take on the role of the employer and the other the employee.
- Provide the pairs with a scenario in which a safety issue arises in the workplace (e.g., unsafe working conditions, a worker’s right to stop unsafe work).
- Ask them to role-play the interaction where the employer explains their responsibilities and the employee asserts their rights and responsibilities.
- After the role-play, ask the class to reflect on what was discussed and highlight any key learning points.

2.2.7. 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.

2.2.8. Summary

1. Health, Safety, and Environment (HSE) Management:

- HSE management focuses on maintaining a safe and healthy workplace by preventing accidents and promoting environmental sustainability.
- Importance: Ensures the well-being of employees, compliance with regulations, and minimizes financial loss from accidents.
- Reasons for Safety:
 - A. Moral: Duty to protect workers from harm.

B. Financial: Avoiding costs related to accidents (e.g., medical expenses, compensation, lost productivity).

C. Legal: Compliance with safety laws to avoid fines and legal issues.

2. Accident Cost – Iceberg Theory:

- Direct Costs: Visible costs like medical bills, compensation, and equipment repair.
- Indirect Costs: Hidden costs like loss of productivity, legal fees, and damage to company reputation.

3. Employer Responsibilities:

- Ensure safe working conditions, provide necessary training, and equip workers with protective gear.
- Maintain safety policies and perform regular safety audits.

4. Employee Rights & Responsibilities:

- Rights: Right to work in a safe environment and report hazards without fear of retaliation.
- Responsibilities: Follow safety procedures, use protective equipment, and report unsafe conditions.

5. Safety Culture:

- A strong safety culture encourages active participation from both employers and employees to promote a safe working environment.
- Indicators: Open communication, adherence to safety procedures, and continuous safety training.

6. Role of International Labour Organisation (ILO):

Sets global standards and guidelines for workplace safety and health to protect workers worldwide.

7. Safety Policy and SMART Goals:

- Safety Policy: A statement outlining the company's commitment to health and safety, including aims and objectives.
- SMART Goals: Specific, Measurable, Achievable, Relevant, and Time-bound goals set to improve workplace safety (e.g., reducing accidents by a certain percentage in a specific time frame).

2.2.9. Exercise

1. What are the three primary reasons for implementing health and safety at the workplace?

- a) Moral, Environmental, Legal
- b) Financial, Moral, Legal
- c) Legal, Technological, Environmental
- d) Financial, Technological, Moral

2. The “Accident Cost - Iceberg” theory highlights which of the following?

- a) The hidden and visible costs of accidents
- b) The physical and emotional impact of accidents
- c) The visible impact of training
- d) The role of environment in accidents

3. What is the role of the International Labour Organisation (ILO) in workplace safety?

- a) Provides financial support for safety training
- b) Sets global safety standards and promotes safety culture
- c) Implements emergency evacuation plans
- d) Supplies equipment to reduce accidents

4. Every employer is required to provide a _____ work environment to ensure the health and safety of all employees.

5. It is important for employees to report any _____ immediately to their supervisor to prevent accidents

6. It is the employer's responsibility to ensure a safe working environment for all employees.(T/F)

7. Employees should immediately report any unsafe conditions or hazards to their supervisor. (T/F)

2.3. Unit 2.2: Roles in an organization

2.3.1. Unit Objectives

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

- Understand the role of management in an organization.
- Understand fundamentals of process safety
- Understand the role of occupier, controller of premise
- Understand Contractor Safety Management System
- Understand permit to work system and role of safety committee

2.3.2. 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)

2.3.3. Say

- Describe role of management in an organization.
- Describe fundamental concept of process safety
- Describe the role of occupier, controller of premise
- Describe process of Contractor Safety Management System
- Describe permit to work system and role of safety committee

2.3.4. Explain

- Describe role of management in an organization.
- Describe fundamental concept of process safety
- Describe the role of occupier, controller of premise
- Describe process of Contractor Safety Management System
- Describe permit to work system and role of safety committee

2.3.5. Role-Play Exercise:

Divide the students into small groups and assign each group a scenario related to contractor safety management. Each group will take on one of the following roles:

Safety Manager overseeing contractors.

Contractor working on-site.

Safety Committee member conducting a review meeting.

Occupier ensuring compliance with safety rules.

Scenarios could include:

A contractor requesting a work permit for a high-risk activity (e.g., working at height or with hazardous chemicals).

A contractor not following proper safety procedures, and the safety manager steps in to correct the situation.

A safety committee conducting a regular review meeting to assess contractor compliance and discuss safety concerns.

Instructions:

Role-players must act out the scenario and interact according to their assigned role. Focus on communication, safety checks, and the importance of reporting incidents.

After the role-play, each group will explain their actions to the class and discuss the outcomes of their scenario, such as identifying gaps in contractor safety or reviewing safety permits.

2.3.6. 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.

2.3.7. Summary

1.Role of Management in an Organization:

Management is responsible for establishing and promoting a culture of safety within the organization. They ensure that safety policies are developed, implemented, and adhered to, and that appropriate resources (financial, human, and technical) are allocated to maintain workplace safety. Management also oversees safety training programs, safety audits, and emergency preparedness plans. Their role includes ensuring compliance with legal safety requirements and continuous improvement of safety systems.

2.Fundamental Concept of Process Safety:

Process safety involves the identification, analysis, and management of hazards associated with industrial processes to prevent accidents, injuries, and environmental harm. It focuses on the integrity of process systems and aims to prevent catastrophic incidents such as fires, explosions, and toxic releases. Fundamental concepts include risk assessments, hazard identification, safety barriers, and ensuring the proper design, operation, and maintenance of equipment.

3.Role of Occupier and Controller of Premises:

Occupier: The occupier is the person or entity responsible for the operation of a premises. They are accountable for ensuring safety standards are met and maintained within the workplace. This includes managing safety policies, risk assessments, and compliance with regulatory requirements.

Controller of Premises: The controller of premises is responsible for controlling access to and usage of the workplace. They ensure that the premises are maintained in a safe condition and that safety procedures are followed by employees and contractors alike.

4. Process of Contractor Safety Management System:

Contractor safety management is a system that ensures contractors follow safety standards while working on-site. It involves the selection of contractors based on their safety performance, assessing risks, and ensuring that contractors adhere to workplace safety protocols. This system includes issuing work permits, ensuring contractor training, conducting safety audits, and regular safety meetings. Communication between the contractor, safety managers, and employees is crucial to ensure a safe work environment.

5. Permit to Work System and Role of Safety Committee:

The permit to work system is a formal procedure used to control high-risk activities and ensure that safety measures are followed. It is a written authorization that allows specific tasks to be carried out, outlining safety measures, precautions, and necessary safety checks before the work begins.

The Safety Committee plays a crucial role in overseeing the safety programs within an organization. They ensure the enforcement of safety standards, conduct safety inspections, review accident reports, and promote safety awareness. The committee acts as a communication bridge between management, employees, and contractors, helping to create a safe and compliant working environment.

2.3.8. Exercise

1. What does QRA stand for in process safety?
 - a) Quantitative Risk Analysis
 - b) Quality Resource Assessment
 - c) Quick Risk Assessment
 - d) Qualified Risk Analysis
2. What is the purpose of a work permit system for contractors?
 - a) To ensure contractors' work aligns with production goals
 - b) To confirm contractors understand and adhere to safety protocols
 - c) To manage financial transactions with contractors
 - d) To improve efficiency in contractor management
3. What is the role of a safety committee in an organization?
 - a) Organize employee recreational activities
 - b) Monitor and improve workplace safety systems
 - c) Conduct financial audits
 - d) Approve equipment purchases

4. The role of management in an organization includes overseeing operations, ensuring the safety of employees, and maintaining _____ compliance.

5. The safety supervisor is responsible for ensuring that employees are following the organization's safety protocols and _____ safety rules.

6. LOPA (Layer of Protection Analysis) is a risk management technique that evaluates the layers of safeguards needed to prevent a _____ event

7. SIL (Safety Integrity Level) is used to determine how often safety equipment should fail.

8. FERA (Fire and Explosion Risk Assessment) focuses on evaluating the likelihood of electrical failures in a workplace.

9. The occupier of a premises is responsible for ensuring all health and safety measures are adhered to on-site.

2.4. Unit 2.3: Safety training

2.4.1. Unit Objectives

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

- Understand the need of training, the contents of induction training & competent persons at the workplace
- Understand “Toolbox talk” and “Induction training”.
- Understand Concept of gas testing using – LEL sensor, O2 sensor, H2S sensor, Co-Sensor

2.4.2. Resources

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

2.4.3. Say

- Why training is necessary?
- What should be included in “Toolbox talk”

2.4.4. Explain

- Describe different kind of training and competency
- Describe about Toolbox talk
- Describe Concept of gas testing

2.4.5. Role-Playing Exercise:

Split students into pairs. One person will take the role of a trainer, and the other will be the trainee.

The trainer will conduct a short Toolbox Talk on a safety topic (e.g., fire safety, lifting techniques) or deliver a portion of an Induction Training.

After 5 minutes, swap roles.

Class Feedback:

After each role-play, allow the class to provide feedback on the effectiveness of the training and suggest improvements (e.g., clarity, engagement, essential information).

2.4.6. 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.

2.4.7. Summary

1. Training and Competence at the Workplace:

Induction Training: Introduces new employees to safety policies, procedures, hazard identification, and emergency response protocols.

Toolbox Talk: Short, focused safety discussions that reinforce specific safety topics to employees on the job.

Competence at the workplace refers to skills, knowledge, and abilities needed to perform tasks efficiently, contributing to organizational success

2. Gas Testing:

Learning how to use gas testing equipment (LEL sensor, O2 sensor, H2S sensor, CO sensor) is crucial in workplaces where hazardous gases may be present.

- LEL Sensor: Detects lower explosive limits to prevent fire or explosions.
- O2 Sensor: Measures oxygen levels to ensure sufficient oxygen is available for safe work conditions.
- H2S Sensor: Detects hydrogen sulphide, a toxic gas.
- CO Sensor: Monitors carbon monoxide levels to prevent poisoning.

2.4.8. Exercise

1. What is the primary purpose of a “Toolbox talk”?

- To distribute safety gear
- To discuss job-specific hazards and safety measures
- To provide formal safety training
- To conduct drills for emergency evacuation

2. Toolbox talks are informal discussions aimed at increasing awareness of specific safety risks at the workplace.(T/F)

3. Induction training is only required for new employees and not for existing employees.(T/F)

3. Unit 3 SSD/VSQ/N0102: Fire Safety and Evacuation plan

3.1.Key Learning Outcomes

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

- Identify fire hazards at the workplace.
- Distinguish between different classes of fire.
- Understand Evacuations, fire drills, use of PPEs.
- Develop systematic approach in identifying and correcting probable of fire accidents

- Understand fire-fighting equipment.
- Understand how to Operate fire extinguisher and fire hydrant

3.2. Unit 3.1: Basics understanding of Fire Accidents

3.2.1. Unit Objectives

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

- Understand basic definitions-Fire
- Understand the Fire triangle and classification fire.

3.2.2. 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)

3.2.3. Say

- Describe Fire triangle , its component and classification fire

3.2.4. Explain

- Describe Fire triangle , its component and classification fire

3.2.5. Activity.

The Fire Triangle Demonstration

Objective: To explain the concept of the fire triangle and its relevance to fire prevention.

Instructions:

Draw a triangle on the board and label the three sides as Heat, Oxygen, and Fuel.

Explain that a fire can only occur when all three elements of the fire triangle are present.

Ask students to brainstorm ways to remove or control one of the elements to stop a fire (e.g., using a fire extinguisher to remove heat or fuel).

Show a short video or animation illustrating how fires start and how removing one element of the fire triangle can prevent a fire.

Ask students to share examples of fire prevention measures they have encountered (e.g., fire extinguishers, firebreaks, etc.).

Key Points to Emphasize:

Heat, oxygen, and fuel must be present in the right conditions for combustion to occur.

Removing or controlling one element of the fire triangle can prevent or extinguish fires.

3.2.6. 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.

3.2.7. Summary

Basic Fire Definitions:

- Flammable Liquids: Liquids that ignite easily, like gasoline and alcohol.
- Combustible Matter/Liquids: Materials that catch fire at higher temperatures, such as oils and certain solvents.
- Combustible Gases: Gases that can burn when exposed to a flame, including propane and methane.
- Combustion: The chemical reaction in which a substance reacts with oxygen to release heat and light (fire).
- Oxygen Percentage in Air: Normal oxygen levels are around 21%. Changes in this can affect the fire behaviour.
- Exothermic Reactions: Reactions that release heat, such as combustion.
- Endothermic Reactions: Reactions that absorb heat.
- Radiation: The transfer of heat through electromagnetic waves, such as heat from a fire.

2.Fire Triangle:

Fire requires three elements: Heat, Fuel, and Oxygen. Removing any of these elements will extinguish the fire.

3.Fire Classifications:

Fires are classified based on the type of material burning:

- Class A: Solid materials (wood, paper).
- Class B: Flammable liquids.
- Class C: Gaseous fires.
- Class D: Metal fires.
- Class K: Cooking oils and fats.

3.2.8. Exercise

1. What does the fire triangle consist of?

- Fuel, Heat, Carbon dioxide
- Heat, Oxygen, Fuel
- Fuel, Combustion, Smoke
- Oxygen, Fuel, Smoke detectors

2. The process of combustion requires three essential elements: heat, fuel, and _____.

3. Exothermic reactions release energy in the form of _____ during the reaction.

4. Flammable liquids can ignite at temperatures above 100°C. (T/F)

3.3.Unit 3.2. Fire Extinguisher

3.3.1. Unit Objectives

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

- Preventing fire and spread by controlling fuel source, ignition source control and oxygen control.

- Understand different types of extinguishing media-water, foam, dry chemical powder, carbon dioxide.
- Learn and perform extinguishing of fire using PASS technique & operation of fire hydrants

3.3.2. 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)

3.3.3. Say

- Describe types of fire-fighting equipment and its principle of operation
- Describe Preventing fire and spread by controlling fuel source, ignition source control and oxygen control.

3.3.4. Explain

- Describe types of fire-fighting equipment and its principle of operation
- Describe Preventing fire and spread by controlling fuel source, ignition source control and oxygen control.

3.3.5. Role-Playing Exercise:

Divide students into pairs or small groups. One person will act as a firefighter, and the other will role-play a fire emergency.

The firefighter must demonstrate the PASS technique using a model fire extinguisher (or simulated method if real equipment isn't available).

After each demonstration, ask students to discuss the effectiveness of the technique and correct any mistakes.

3.3.6. 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.

3.3.7. Summary

1. Fire-fighting Equipment:

Types of Fire Extinguishers: Water, foam, CO₂, and powder extinguishers are used for different fire classifications.

PASS Technique:

P: Pull the pin

A: Aim at the base of the fire

S: Squeeze the handle

S: Sweep from side to side

Fire Hydrants: Used for accessing water in fire-fighting operations.

2.Preventing Fire and Its Spread: Controlling Fuel, Ignition Source, and Oxygen

Fire prevention is based on controlling the three key elements that make up the fire triangle: fuel, ignition source, and oxygen. By controlling these elements, it is possible to prevent the initiation and spread of fires. Here's a brief explanation of each:

1. Fuel Source Control

Definition: Fuel refers to any material that can burn, such as wood, paper, chemicals, flammable liquids, or gases.

Prevention:

Proper Storage: Store flammable materials away from heat sources and in well-ventilated areas.

Regular Maintenance: Remove combustible waste and debris regularly to prevent it from accumulating.

Fire-Resistant Materials: Use non-combustible or fire-resistant materials in construction and manufacturing processes.

Safe Disposal: Ensure that hazardous or flammable waste is disposed of properly to avoid accidental fires.

2. Ignition Source Control

Definition: Ignition sources are anything that can generate enough heat to start a fire, such as open flames, sparks, electrical equipment, or hot surfaces.

Prevention:

Electrical Safety: Regularly inspect and maintain electrical systems to prevent short circuits and sparks.

Control Hot Work: For activities like welding or cutting, use appropriate safety procedures and fire-resistant blankets.

No Smoking Areas: Designate smoking areas away from combustible materials and ensure proper disposal of smoking materials.

Use of Flame Arresters: Install flame arresters in equipment or pipes to prevent sparks from igniting flammable gases or liquids.

3. Oxygen Control

Definition: Oxygen supports combustion. Fires need oxygen to continue burning, so controlling its availability can prevent or stop fires.

Prevention:

Ventilation Control: In confined spaces or areas with flammable substances, control ventilation to limit the amount of oxygen available to a fire.

Fire Suppression Systems: Use fire suppression systems, such as CO₂ or foam, that reduce oxygen levels around the fire and suppress combustion.

Avoid Overexposure to Oxygen: In some environments, such as hospitals, avoid excessive oxygen in areas where fire risks are high.

3.3.8. Exercise

1. Which of the following is NOT a method of preventing fire and its spread?
 - a) Controlling fuel source
 - b) Ignition source control
 - c) Oxygen source control
 - d) Increasing the amount of fuel
2. What is the primary purpose of controlling the ignition source in fire prevention?
 - a) To increase the spread of fire
 - b) To provide fuel for combustion
 - c) To prevent the fire from starting by eliminating sparks or flames
 - d) To reduce the size of the fire
3. Water is effective for extinguishing Class A fires, which involve _____ combustibles like wood and paper.
4. The _____ technique is used to operate a fire extinguisher effectively, standing for Pull, Aim, Squeeze, and Sweep.
5. True or False: Oxygen control can be achieved by limiting ventilation in confined spaces.
6. True or False: The PASS technique involves pulling the pin, aiming at the base of the fire, squeezing the handle, and sweeping the nozzle from side to side.
7. True or False: Water should be used to extinguish all types of fires, including electrical and oil fires.

3.4. Unit 3.3. Fire safety equipment's & PPE

3.4.1. Unit Objectives

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

- Understand the use of smoke detectors, fire alarm, emergency lighting, flashing light, sprinklers, and pressure requirements in fire hydrants, PPE's, SCBA (Self-contained breathing apparatus) and use of SCBA.
- Understand the requirements of emergency evacuation

3.4.2. Resources

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

3.4.3. Say

- Describe the fire detecting device
- Describe the requirements of emergency evacuation.
- **Describe** PPE's for fire fighting

3.4.4. Explain

- Describe the fire detecting device
- Describe the requirements of emergency evacuation.
- **Describe** PPE's for fire fighting

3.4.5. Activity.

Group Discussion

Split the class into small groups. Assign each group one piece of equipment to focus on (e.g., one group for smoke detectors, another for fire alarms, etc.).

Ask them to discuss and write down the following:

How the equipment works

Where it is typically used

Why it is essential in fire safety

After 10 minutes, have each group share their findings with the class.

Technological Interventions (5 minutes): Conclude the activity by introducing new fire safety technologies, like:

Water Mist Systems

Online Hydrant Pressure Monitoring

Wireless Fire Detection Systems

Discuss how these technologies improve fire safety and response times.

Key Points to Emphasize:

Different fire safety equipment has specific functions (e.g., sprinklers suppress flames, fire alarms alert individuals, and smoke detectors detect early signs of fire).

The role of pressure in hydrants and how it ensures water supply during a fire emergency.

Technological advancements that enhance fire safety management and monitoring.

3.4.6. 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.

3.4.7. Summary

Fire Safety Systems and PPE:

- Smoke Detectors: Alert when smoke is detected, triggering alarms.
- Fire Alarms: Sound or visual signals to alert people to evacuate.
- Emergency Lighting: Illuminates escape routes during power failure.
- Flashing Lights: Provide additional visual alerts during emergencies.
- Sprinklers: Water-based fire suppression systems.
- PPE (Personal Protective Equipment): Includes helmets, gloves, and fire-resistant clothing.

- SCBA (Self-Contained Breathing Apparatus): Used by firefighters to provide breathable air in smoke-filled environments.

Emergency Evacuation:

- Escape Routes: Clearly marked pathways leading to safety.
- Emergency Doors: Must be easily accessible and unlocked during emergencies.
- Assembly Points: Safe locations where evacuees gather after leaving the building.
- Evacuation of Differently Abled Individuals: Special procedures to ensure everyone can evacuate safely.
- Evacuation Procedures: Standardized actions to follow during emergencies.
- Fire Drills: Regular practice of evacuation procedures to ensure preparedness in case of a real fire emergency.

3.4.8. Exercise

1. Which of the following is used to detect the presence of smoke and trigger an alarm?

- Fire alarm
- Smoke detector
- Sprinkler system
- Emergency lighting

2. What is the primary function of a fire alarm system?

- To extinguish fires
- To detect smoke and alert people of a fire
- To monitor water levels in fire hydrants
- To regulate oxygen levels

3. The fire alarm system works by triggering an alert when smoke or _____ is detected in a building.

4. _____ is a type of fire suppression system that automatically sprays water or foam to put out a fire.

5. True or False: Smoke detectors are only effective in large buildings with multiple floors.

6. True or False: A sprinkler system helps extinguish a fire by spraying water or foam in the affected area automatically.

4. Unit 4 NOS 3: SSD/VSQ/N0103: Hazard Identification and Risk Assessment

4.1. Key Learning Outcomes

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

- Identify hazards, analyse categories of the hazards
- Implement Hierarchy of control in improvement methodologies.
- Understand hidden risk in improved methodologies

4.2. Unit 4.1: Basic Hazard Identification

4.2.1. Unit Objectives

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

- Understand the basic definitions: Hazards, unsafe conditions & acts, incidents & accidents; fatal, non-fatal, near miss incidents & accidents; lost time injury & first aid injury.
- Understand hazard categories and risks
- Understand the hierarchy of controls in safety.
- Understanding Importance of each hierarchy of control.
- Understanding the steps in the hierarchy of control.

4.2.2. 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)

4.2.3. Say

- Describe Hazards, unsafe conditions & acts, incidents & accidents; fatal, non-fatal, near miss incidents & accidents; lost time injury & first aid injury
- Describe hazard categories and risks
- Describe the hierarchy of controls in safety.
- Describe Importance of each hierarchy of control.
- Describe steps in the hierarchy of control

4.2.4. Explain

- Describe Hazards, unsafe conditions & acts, incidents & accidents; fatal, non-fatal, near miss incidents & accidents; lost time injury & first aid injury
- Describe hazard categories and risks
- Describe the hierarchy of controls in safety.
- Describe Importance of each hierarchy of control.
- Describe steps in the hierarchy of control

4.2.5. Activity

Basic Hazard Identification

- **Objective:** To understand and practice identifying basic workplace hazards.

Activity Setup:

- Divide the class into small groups (4-5 students per group).
- Provide each group with a hypothetical workplace scenario (e.g., construction site, office, manufacturing plant, laboratory).

- Distribute hazard identification checklists or templates to each group.

Instructions:

Hazard Identification:

- Each group reviews the given scenario and identifies potential hazards present in the workplace. These could include physical, chemical, biological, ergonomic, and psychosocial hazards.
- Groups should categorize hazards based on their type (e.g., machinery, chemicals, poor lighting, slips, and falls).

Risk Assessment:

After identifying the hazards, each group evaluates the potential risks associated with those hazards (e.g., likelihood of occurrence, severity of consequences).

They should assess the potential impact of these hazards on workers' safety and health.

Develop Preventive Measures:

Based on their findings, groups propose possible preventive measures or controls for each identified hazard (e.g., safety guards on machinery, proper ventilation for chemicals, ergonomic workstations).

Presentation:

Each group presents their hazard identification findings, risk assessment, and recommended safety measures to the class.

Discussion:

- Discuss the different types of hazards identified by each group and their proposed solutions.
- Talk about the importance of a proactive approach to hazard identification and the role of employees in recognizing and reporting hazards.

Conclusion:

Summarize the key concepts of hazard identification, risk assessment, and the importance of implementing safety measures to prevent accidents and injuries in the workplace.

Emphasize that identifying hazards early is crucial for ensuring workplace safety.

4.2.6. 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.

4.2.7. Summary

What is Hazard?

“A circumstance present in an environment that has the potential to cause an UNDESIRABLE event inflicting harm on people or damage to equipment or processes.”

Types of Hazards:

- Physical hazards e.g. fire, electricity, vibration, poor housekeeping
- Chemical hazards e.g. gas, bleach, cleaning agents, fumes, vapour
- Ergonomic hazards e.g. improper setup of workstations, repetitive movements, noise, lighting, thermal comfort
- Biological hazards e.g. animals, virus, mold, fungi, bacteria
- Psychosocial hazards e. g stress, psychology hazards

Steps in Risk Assessment:

- **Identify the Hazard:** Recognize potential sources of harm.
- **Assess the Risk:** Evaluate the likelihood of an incident occurring and the potential severity of its consequences.
- **Determine Risk Levels:** Categorize risks based on their likelihood and severity, often using a risk matrix.
- **Prioritize Risks:** Identify which risks require immediate attention based on their assessed level.
- **Recommend Controls:** Suggest appropriate control measures to mitigate the risks.

Risk Matrix: A risk matrix is a tool used to assess and categorize risks by plotting the likelihood of an incident against the severity of its potential consequences.

4.2.8. Exercise

1. Lost time injury refers to:

- A) Any injury, regardless of time away from work
- B) An injury that requires medical treatment
- C) An injury that results in missed work days
- D) A minor injury that needs first aid

2. What is a hazard?

- A) An event that causes harm
- B) A condition that has the potential to cause harm
- C) An action taken to mitigate risk
- D) A regulatory requirement

3. What defines an incident?

- A) An event that results in injury or damage
- B) A near-miss situation
- C) An event that does not result in harm
- D) All of the above

4. Risks are consequence of Hazards. (T/F)

5. ____ are potential source of Harm

4.3. Unit 4.2: Basic Hazard categories and control

4.3.1. Unit Objectives

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

- Understand different hazard categories & control: Electricity and Fire.
- Understand different hazard categories & control: Tools, equipment, and machinery.

- Understand different hazard categories & control: Health and workplace hazard - Work at height, confined space, working in an excavation, lone working, and slips & trips.
- Understand different hazard categories & control: Movement of workforce, Work related driving and vehicles at workplace.
- Understand different hazard categories & control: Hazardous substances.
- Understand different hazard categories & control: Musculoskeletal disorders, manual handling, and load handling equipment.
- Understand different hazard categories & control: Noise, vibration, radiation, mental ill- health, violence at work, substance abuse at workplace.
- Understand different hazard categories & control: Lifting and Rigging hazards and control.

4.3.2. 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)

4.3.3. Say

Describe the different hazard categories & control

4.3.4. Explain

Describe the different hazard categories & control

4.3.5. Activity

Basic Hazard Categories and Controls

- **Objective:** To understand and apply the different hazard categories and their corresponding control measures in the workplace.

Activity Setup:

- Divide the class into small groups (4-5 students per group).
- Provide each group with a list of workplace hazards categorized into basic types (e.g., Physical, Chemical, Biological, Ergonomic, and Psychosocial hazards).
- Provide each group with a set of possible control measures (e.g., engineering controls, administrative controls, PPE).

Instructions:

Hazard Identification:

Each group is given a set of hazards from different categories (e.g., for **Chemical Hazards**, they might have "Exposure to toxic fumes"; for **Physical Hazards**, they might have "Slippery floors").

Groups need to identify and categorize the hazards (Physical, Chemical, Biological, Ergonomic, Psychosocial).

Control Measure Application:

For each hazard identified, groups should discuss and determine the most appropriate control measures. They should consider:

- **Elimination:** Can the hazard be removed from the workplace entirely?
- **Substitution:** Can a safer alternative be used?
- **Engineering Controls:** Can machines or equipment be modified to reduce risk (e.g., ventilation systems, guards)?
- **Administrative Controls:** Can policies, procedures, or training reduce the risk (e.g., work shifts, safety protocols)?
- **PPE:** Is personal protective equipment required (e.g., gloves, goggles, masks)?

Categorize and Rank:

Each group should create a table or chart that lists the hazard, its category, and the recommended control measures. They should also rank the effectiveness of these controls from the highest (Elimination) to the lowest (PPE).

Presentation:

Each group presents their findings to the class, explaining:

The hazard identified.

The hazard category.

The control measures they selected and why they chose them.

The effectiveness of the controls based on the hierarchy.

Discussion:

- Discuss the different types of controls and why certain controls are more effective than others.
- Emphasize that eliminating the hazard or substituting it with something safer should always be the first choice, followed by engineering and administrative controls, and lastly PPE.

Conclusion:

- Recap the importance of identifying hazard categories and applying appropriate control measures.
- Reinforce that a combination of controls, rather than relying on just one, is often the most effective approach to ensuring safety in the workplace.

4.3.6. 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.

4.3.7. Summary

1. Physical Hazards:

Includes machinery, equipment, noise, radiation, temperature extremes, and vibration.

Control: Engineering controls (guards, insulation), administrative controls (work rotation), and PPE (hearing protection, thermal wear).

2. **Chemical Hazards:**

Includes exposure to toxic chemicals, gases, vapours, dust, and fumes.

Control: Substitution of safer chemicals, proper ventilation, PPE (respirators, gloves), and safe storage practices.

3. **Biological Hazards:**

Includes bacteria, viruses, fungi, and other pathogens.

Control: Vaccinations, hygiene protocols, PPE (gloves, face masks), and sanitation procedures.

4. **Ergonomic Hazards:**

Includes repetitive motion, poor workstation design, and manual handling.

Control: Ergonomic assessments, workstation redesign, job rotation, and training on safe lifting techniques.

5. **Psychosocial Hazards:**

Includes stress, harassment, bullying, and violence.

Control: Employee support programs, clear policies, training, and promoting a positive work culture.

6. **Environmental Hazards:**

Includes extreme weather, poor air quality, or hazardous materials in the environment.

Control: Site assessments, weather protection, and emergency preparedness plans.

7. **Key Control Measures:**

- Elimination: Remove the hazard entirely.
- Substitution: Replace the hazard with a safer alternative.
- Engineering Controls: Modify equipment or systems to reduce exposure.
- Administrative Controls: Implement work procedures, training, and scheduling.
- PPE: Use protective equipment as a last line of defence.
- Safety auditors should assess hazards in these categories and implement controls to minimize risks in the workplace.

4.3.8. Exercise

1. Which of the following is a primary electrical hazard?

- A) Exposure to chemicals
- B) Shock and electrocution
- C) Slips and trips
- D) Fire from flammable liquids

2. What does “lockout/tagout” refer to?

- A) A method to secure tools
- B) A safety procedure for hazardous energy control
- C) A method of training employees
- D) A safety gear

3. What is the purpose of fire extinguishers?

- A) To prevent fires from starting
- B) To control and extinguish small fires
- C) To provide heat
- D) To signal for help

4. True or False: Hazard identification is the first step in developing a safety program to protect workers.

5. True or False: Hazards can be categorized into physical, chemical, ergonomic, biological, and psychosocial types.

6. True or False: It is not necessary to identify hazards if the workplace has never had any incidents or accidents.

5. Unit 5 NOS 4: SSD/VSQ/N0104: Plan, Organize and Emergency protocols

5.1. Key Learning Outcomes

- Planning of resources for own work and communication to concerned subordinates, co-workers, and superiors.
- Provide necessary support to subordinates, coordinate with co-workers and liaise with superiors and other teams.
- Monitor progress of work and adjust, manage, or project requirements on time.
- Setting up emergency protocols and implementing them at working places to minimize the loss in case of any incident or accident.

5.2. Unit 5.1: Planning of Work

5.2.1. Unit Objectives

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

- Understand process of plan the resources, schedules, and timelines as per work timelines given by superiors.
- Understand hierarchy of the organization and communicate to concerned co workers and superiors.
- Understand how to do work within timelines.

5.2.2. 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)

5.2.3. Say

- Describe resource allocation and resource schedule
- Describe process of hierarchy of the organization and communicate to concerned co workers and superiors.
- Describe Task allocation and timeline

5.2.4. Explain

- Describe resource allocation and resource schedule
- Describe process of hierarchy of the organization and communicate to concerned co workers and superiors.
- Describe Task allocation and timeline

5.2.5. Activity

Planning of Work

- **Objective:** To understand the process of work planning, including resource allocation, schedule management, and effective communication, while simulating real-world workplace scenarios.
- **Activity Setup:**
 - Divide the class into small groups (4-5 students per group).
 - Provide each group with a **hypothetical project scenario** (e.g., a construction project, event planning, manufacturing task, or research project) that involves tasks to be completed within a set timeframe.
 - Provide **planning tools**, such as:
 - A **Gantt chart template** or **work schedule template**.
 - A **resource list** (e.g., equipment, personnel, materials).
 - A **project timeline** that outlines the total time available and key milestones.
- **Instructions:**
 1. **Scenario Overview:**
 - Present each group with a detailed scenario of a project or task. For example, for a construction project, the scenario might include building a new office space within three months, with specific deadlines for tasks like foundation laying, electrical installation, and final inspection.
 - Emphasize that each group must plan the resources, schedule, and timelines effectively to complete the project successfully.
 2. **Work Breakdown:**
 - Each group should **break down the overall project** into smaller, manageable tasks or phases. For instance:
 - **Task 1:** Site preparation and foundation laying.
 - **Task 2:** Framing and structure work.
 - **Task 3:** Electrical wiring installation.
 - **Task 4:** Final inspection and project handover.
 - Assign responsibilities for each task (e.g., which team member or department will handle which task).
 3. **Resource Allocation:**

- Identify the resources required for each task:
 - **Personnel:** Who will do what (e.g., skilled workers, managers, supervisors)?
 - **Equipment:** What tools or machinery are needed?
 - **Materials:** What materials (e.g., wood, cement, wiring) are required for the project?
 - Groups should allocate resources for each task, ensuring that the necessary items are available at the right time.
4. **Timeline Creation:**
- Using a **Gantt chart** or **work schedule**, groups must map out when each task will begin and end, taking into account dependencies (e.g., Task 2 cannot start until Task 1 is completed).
 - Ensure that they account for any potential delays, allowing some buffer time between tasks or key milestones.
5. **Communication Plan:**
- Develop a **communication plan** to ensure all team members and stakeholders are informed about the work schedule and progress.
 - Decide how to communicate with superiors or other departments (e.g., regular progress reports, meetings).
 - Discuss how changes to the schedule or issues will be communicated and resolved.
6. **Risk Assessment:**
- Identify potential **risks** to the successful completion of the project (e.g., delays in material delivery, workforce shortages).
 - Plan **mitigation strategies** to address these risks (e.g., backup suppliers, additional shifts, contingency time in the schedule).
7. **Presentation:**
- Each group presents their **work plan** to the class, including:
 - Breakdown of tasks and milestones.
 - Resource allocation plan.
 - Timeline and Gantt chart.
 - Communication strategy and risk management plan.
 - After each presentation, encourage questions and feedback from the class on how the plan could be improved.
- **Discussion:**
 - Discuss the importance of **effective work planning** in completing projects on time and within budget.
 - Emphasize the role of **resource management, timeline adherence, and communication** in the success of any project.
 - Discuss how unplanned risks or delays can affect the overall work plan and how to manage those risks proactively.
 - **Conclusion:**
 - Recap the essential components of **work planning**, including task breakdown, resource allocation, timeline management, and communication.

- Reinforce that planning is a critical skill for any professional and helps ensure that projects are completed efficiently, safely, and successfully.
- Encourage students to always consider potential risks and communication needs while planning work in real-world situations.

5.2.6. 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

5.2.7. Summary

1. Resource and Schedule Planning:

Plan resources, schedules, and timelines based on work deadlines set by superiors.

2. Understanding Organizational Hierarchy:

Understand the hierarchy within the organization.

Communicate effectively with co workers and superiors according to the organizational structure.

3. Task Delegation:

Assign tasks to subordinates in alignment with project requirements and timelines.

5.2.8. Exercise

1. What is the first step in planning safety resources for a work task?

- A) Gathering feedback from team members
- B) Reviewing the overall work timelines and objectives
- C) Conducting a financial audit
- D) Allocating tasks to subordinates

2. What is the primary purpose of resource planning?

- A) To allocate tasks to employees
- B) To minimize costs
- C) To ensure resources are available when needed
- D) To increase profit margins

3. Which document typically outlines the project schedule?

- A) Project charter
- B) Statement of work
- C) Project management plan
- D) Risk management plan

4. Which term describes the resources needed to complete a project?

- A) Resource pool
- B) Resource allocation
- C) Resource capacity

D) Resource requirement

5. True or False: In work planning, it is essential to consider worker skill levels and ensure adequate training for the tasks they will perform.

6. True or False: Work planning should avoid including safety protocols if the tasks seem simple or low-risk.

7. True or False: A detailed work plan helps in minimizing delays, reducing accidents, and increasing productivity.

5.3. Unit 5.2: Organizing of Work

5.3.1. Unit Objectives

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

- Resource collection and provisioning.
- Understand Communication Medium to concerned co workers and superiors.
- Briefing to subordinates about the schedule, sequence, timing and resources to subordinates

5.3.2. 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)

5.3.3. Say

- Describe Resource collection and provisioning
- Describe process of hierarchy of the organization and communicate to concerned co workers and superiors.
- Describe process of Briefing to subordinates about the schedule, sequence, timing and resources to subordinates

5.3.4. Explain

- Describe Resource collection and provisioning
- Describe process of hierarchy of the organization and communicate to concerned co workers and superiors.
- Describe process of Briefing to subordinates about the schedule, sequence, timing and resources to subordinates

5.3.5. Activity

Organizing of Work

Objective: To understand the process of organizing work, focusing on resource collection, team communication, and task delegation to ensure efficient execution.

Activity Setup:

Divide the class into small groups (4-5 students per group).

Provide each group with a hypothetical project that requires organizing work (e.g., organizing a company event, launching a new product, or completing a team task in a manufacturing setting).

Provide resources such as a resource list, a timeline, and a task delegation sheet.

Instructions:

Project Overview:

Present each group with a project scenario that requires organizing tasks and resources. For example:

Scenario 1: Organize an employee health and safety training seminar for 100 staff members.

Scenario 2: Organize a new product launch event that includes product display, marketing, and customer engagement.

Scenario 3: A factory maintenance project that involves machine inspection, repair, and quality control.

Identify Resources:

Instruct each group to identify the resources needed for their project:

Personnel: Who will do what? (E.g., team leaders, helpers, specialists).

Materials/Equipment: What materials or tools are required? (E.g., seminar materials, decorations, machinery).

Time: How much time is allocated for each task? (E.g., deadlines for completing specific project phases).

Task Delegation:

Groups should delegate tasks to each team member based on skills and available resources.

Discuss who will be responsible for specific tasks (e.g., one person may handle event logistics, another may be in charge of communications).

Ensure that tasks are evenly distributed and that every member knows their responsibilities and deadlines.

Develop a Task Schedule:

Each group creates a task schedule that outlines when each task will begin and end, who will handle it, and any dependencies (e.g., Task B cannot start until Task A is completed).

Use a work schedule template to visualize the sequence of tasks.

Emphasize the importance of setting realistic deadlines and allocating time for contingencies.

Communication Plan:

Discuss how communication will take place among team members and superiors.

How will progress be tracked and reported? (E.g., weekly meetings, progress updates).

How will issues or delays be communicated and addressed?

Risk Management:

Each group should consider potential risks that could disrupt the project (e.g., a supplier delay, unexpected absences) and develop contingency plans.

For example, if an equipment breakdown occurs, the team should have an alternative vendor or maintenance procedure.

Final Presentation:

Each group will present their organized work plan to the class, covering:

Key resources needed (personnel, materials, time).

How tasks were delegated and why.

The task schedule and timeline.

The communication plan and risk management strategies.

Encourage classmates to ask questions and give feedback on how the organizing process could be improved.

Discussion:

Discuss the importance of organizing work effectively for successful project execution.

Highlight the role of delegating tasks based on skills, available resources, and time constraints.

Emphasize the importance of clear communication and monitoring progress to ensure all tasks are completed on time.

Conclusion:

Recap the key steps in organizing work: identifying resources, delegating tasks, creating schedules, and planning communication and risk management.

Reinforce that organizing work is essential for maximizing efficiency and ensuring project success.

Encourage students to use these organizational principles in their future professional tasks to improve teamwork and productivity.

5.3.6. 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

5.3.7. Summary

1.Resource Collection and Provisioning:

Collect and provide necessary resources for the tasks at hand.

2.Effective Communication:

Communicate relevant information to co-workers and superiors.

3.Briefing Subordinates:

Brief subordinates about the work schedule, task sequence, timing, and available resources.

5.3.8. Exercise

1. What is the primary purpose of resource collection in project management?

- A) To allocate tasks
- B) To gather necessary materials and inputs
- C) To create budgets
- D) To schedule meetings

2. What is the first step in resource collection?

- A) Allocation of resources
- B) Identifying resource needs

- C) Distribution of resources
 D) Evaluation of resources
3. What is the first step in the resource provisioning process?
- A) Allocating resources
 B) Identifying resource requirements
 C) Monitoring resource usage
 D) Reporting resource status
4. What is the best way to ensure your message is understood by co-workers?
- A) Use technical jargon
 B) Keep the message concise and clear
 C) Avoid summarizing key points
 D) Speak quickly
5. True or False: It is not necessary to assign clear responsibilities for safety and emergency procedures when organizing work.
6. True or False: Organizing work includes scheduling tasks in a way that optimizes productivity without compromising safety.
7. True or False: Organizing work should only focus on the efficiency of the process and not on the health and safety of the workers.

5.4. Unit 5.3: Monitoring of Work

5.4.1. Unit Objectives

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

- Understand process of monitoring progress of work, management of resources, guidance to subordinates.
- Understand process of reporting to superiors and keeping the other teams informed.
- Documentations and compliances and report submission.

5.4.2. Resources

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

5.4.3. Say

- Describe about process of monitoring progress of work, management of resources, guidance to subordinates
- Describe about process of reporting to superiors and keeping the other teams informed
- Describe importance of Documentations and compliances and report submission

5.4.4. Explain

- Describe about process of monitoring progress of work, management of resources, guidance to subordinates
 - Describe about process of reporting to superiors and keeping the other teams informed
- Describe importance of Documentations and compliances and report submission

5.4.5. Activity

Monitoring of Work

- **Objective:** To understand the process of monitoring work, ensuring tasks are completed as planned, and addressing issues in real-time to ensure efficiency and quality.
- **Activity Setup:**
 - Divide the class into small groups (4-5 students per group).
 - Provide each group with a **project scenario** that involves multiple tasks and objectives. Examples could include:
 - Organizing a conference or event.
 - Managing a product launch.
 - Completing a construction project or factory maintenance task.
 - Distribute **monitoring tools**, such as a **progress tracking sheet**, **performance checklist**, and **issue resolution template**.
- **Instructions:**
 1. **Scenario Overview:**
 - Present a project scenario where the group needs to **monitor progress** and ensure that tasks are completed on time and according to quality standards. For example:
 - **Scenario 1:** You are managing a team to plan and organize a corporate training event. The team has various tasks like booking the venue, creating materials, sending invitations, and arranging catering.
 - **Scenario 2:** You are overseeing a construction project. The tasks include scheduling deliveries, organizing team work shifts, and ensuring safety protocols are followed.
 - Each group is tasked with organizing and monitoring the project to ensure all tasks are completed as planned.
 2. **Task Breakdown:**
 - Ask each group to break down the project into smaller tasks. For example:
 - **Task 1:** Booking the venue for the event.
 - **Task 2:** Sending invitations to participants.
 - **Task 3:** Preparing presentation materials.
 - **Task 4:** Setting up the venue and arranging logistics.
 - Assign specific tasks to each group member, ensuring that they each have clear responsibilities.
 3. **Establish Monitoring Criteria:**
 - Instruct each group to establish clear **monitoring criteria** for each task. For example:
 - What is the **deadline** for each task?

- What are the **quality standards** to be met?
- What are the **key milestones** for checking progress?
- Use a **progress tracking sheet** to track whether the tasks are on schedule, on budget, and meeting quality standards.

4. Monitor Progress:

- Each group should regularly **monitor the progress** of the tasks:
- Conduct regular **check-ins** (e.g., weekly or bi-weekly) to ensure that the tasks are being completed on time.
- **Compare the progress** with the original plan (e.g., check if task deadlines are being met).
- Use the **performance checklist** to evaluate if tasks are being performed correctly and according to the defined quality standards.
- Address any issues that arise, such as:
 - **Delays:** If a task is behind schedule, what corrective actions will be taken?
 - **Quality issues:** If the work doesn't meet the expected quality, how will you address it?

5. Issue Resolution:

- Each group will need to deal with hypothetical **issues** that could arise during the project. For example:
 - **Issue 1:** Task 2 (sending invitations) is delayed because the contact list wasn't updated on time.
 - **Issue 2:** Task 4 (venue setup) is being delayed due to supplier delivery problems.
- Use the **issue resolution template** to propose solutions for the issues, such as:
 - Reassigning tasks.
 - Extending deadlines.
 - Procuring alternative resources.

6. Final Report:

- At the end of the activity, each group will **present a report** that includes:
 - A summary of the **tasks assigned** and their deadlines.
 - The **monitoring process** used to track progress and ensure quality.
 - Any **issues encountered** and how they were resolved.
 - Final assessment of whether the project was completed on time and met quality standards.
 - Groups should highlight the **lessons learned** from the monitoring process, such as:
 - The importance of early issue identification.
 - The need for clear communication within the team.
- **Discussion:**
 - Discuss the importance of **monitoring work** to ensure it stays on track and meets quality standards.
 - Explore different **monitoring techniques**, such as setting clear objectives, tracking progress, and holding regular check-ins.
 - Highlight the need for **flexibility** in monitoring and adjusting the plan as issues arise.
- **Conclusion:**
 - Recap the key steps in **monitoring work**, including setting clear tasks, establishing criteria, tracking progress, addressing issues, and adjusting plans.

- Reinforce that monitoring is essential to ensure that work is completed efficiently, on time, and to the required standard.
- Encourage students to apply these **monitoring techniques** in future projects to improve team performance and project outcomes.

5.4.6. 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

5.4.7. Summary

1. Track Progress:

Continuously monitor the progress of tasks and projects against set timelines and goals.

2.Ensure Compliance:

Ensure work is being carried out according to established procedures, safety standards, and quality guidelines.

3.Identify Issues:

Identify any delays, resource shortages, or obstacles and address them promptly.

4.Provide Support:

Offer assistance or guidance to team members as needed to ensure smooth workflow.

5.Report Status:

Regularly report work progress to superiors and stakeholder

5.4.8. Exercise

1.What role does leadership play in monitoring work?

- A) It is irrelevant
- B) It sets the tone for accountability and support
- C) It complicates processes
- D) It should be avoided

2. What is the primary purpose of monitoring progress in a project?

- A) To assign blame for delays
- B) To ensure tasks are completed on time and within budget
- C) To ignore issues as they arise
- D) To complicate project management

3. Which of the following is a key indicator of project progress?

- A) Employee satisfaction
- B) Milestone completion
- C) Office atmosphere
- D) Social media engagement

4. True or False: Organizing work should consider the availability of resources, including tools, materials, and equipment, to avoid delays or inefficiencies.

5. True or False: It is not necessary to assign clear responsibilities for safety and emergency procedures when organizing work.

6. True or False: Organizing work includes scheduling tasks in a way that optimizes productivity without compromising safety.

5.5. Unit 5.4: Emergency Protocols

5.5.1. Unit Objectives

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

- Set up medical emergency measures, in case of accidents/incidents at the workplace.
- Set up fire emergency measures as per plans in case of any fire accidents at the workplace.
- Set up emergency assembly area, evacuation plan, sign boards and guidance

5.5.2. 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)

5.5.3. Say

- Describe about process of medical emergency measures, in case of accidents/incidents at the workplace.
- Describe about process of fire emergency measures
- Describe importance of emergency assembly area, evacuation plan, sign boards and guidance

5.5.4. Explain

- Describe about process of medical emergency measures, in case of accidents/incidents at the workplace.
- Describe about process of fire emergency measures
- Describe importance of emergency assembly area, evacuation plan, sign boards and guidance

5.5.5. Activity

Divide the class into small groups and assign each group a workplace accident scenario (e.g., a chemical spill, electrical shock, or severe bleeding).

Have the groups discuss and create a detailed Medical Emergency Response Plan, including:

Immediate steps to take in their scenario.

How to access and use first aid supplies.

Communication protocols (e.g., who to call for help and how).

The roles and responsibilities of employees in the medical emergency response.

5.5.6. 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

5.5.7. Summary

1. Set Up Medical Emergency Measures

Setting up medical emergency measures at the workplace is crucial to ensuring prompt and effective response in the event of accidents or incidents. This includes having a well-stocked First Aid Kit, designated first aid responders, and an organized system for medical emergencies. Emergency contacts, procedures for assessing and treating injuries, and clear instructions on how to seek medical assistance should all be in place. Additionally, regular training and drills are important to maintain preparedness in dealing with various medical emergencies, ensuring quick and efficient response when accidents occur.

2. Set Up Fire Emergency Measures

Fire safety at the workplace is vital to minimize the risks of fire hazards. Setting up fire emergency measures involves identifying fire hazards, providing accessible fire extinguishers, and ensuring that fire alarms and fire exits are in place. A comprehensive fire emergency plan should be developed, which includes evacuation routes, emergency contacts, and roles assigned to staff members (e.g., fire marshals). Regular fire drills are essential for ensuring that everyone is familiar with evacuation procedures and can act quickly in case of a fire emergency.

3. Set Up Emergency Assembly Area, Evacuation Plan, Sign Boards, and Guidance

An evacuation plan is essential for guiding individuals to safety during emergencies, whether fire-related or other critical incidents. The workplace should have designated emergency assembly areas away from potential hazards. Clear signage and guidance are necessary for directing employees to these assembly areas and safe exits. Evacuation routes should be well marked, easily accessible, and designed to accommodate all employees, including those with special needs. Regular practice drills are also important to ensure employees are familiar with the evacuation process and can follow the procedures efficiently in case of an emergency.

5.5.8. Exercise

1. Which of the following is a key component of setting up medical emergency measures at the workplace?

- First Aid Kit
- Fire extinguishers
- Emergency assembly area
- Security cameras

2. What should be included in a fire emergency plan at the workplace?

- a) A list of employees
- b) Locations of fire exits and extinguishers
- c) Employee break times
- d) Parking lot layout

3. What is the primary purpose of an emergency assembly area?

- a) To store emergency medical supplies
- b) To gather employees during an evacuation
- c) To provide refreshments during emergencies
- d) To conduct safety drills

4. In the event of a fire, employees should follow the _____ to evacuate the building safely.

5. The _____ is designated as a safe area where employees should gather after evacuating the workplace during an emergency.

6. A fire emergency plan should include clear instructions about the location of _____, fire exits, and emergency contact information.

7. True or False: All employees should be familiar with the workplace's emergency evacuation routes and assembly areas.

8. True or False: In case of fire, it is important to use the nearest exit and not to wait for instructions.

6. Unit 6 NOS 5: SSD/VSQ/N0105: Introduction to Safety Regulations

6.1. Key Learning Outcomes

- Understand & comply with statutory regulation related to occupation safety, health, and environment of the worksite.
- Protect Worker Health and Safety: The primary goal is to minimize work-related accidents, injuries, and illnesses.
- Enhance Productivity: A safe and healthy workplace leads to increased productivity and reduced absenteeism.
- Comply with Legal Requirements: Adherence to OSH laws and regulations is mandatory to avoid penalties and legal consequences.
- Promote a Positive Work Culture: A strong OSH culture fosters employee morale, job satisfaction, and loyalty.

6.2. Unit 6.1 Statutes & Legislative requirements

6.2.1. Unit Objectives

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

1. Key Provisions of the BOCW Act, 1996

- **Registration of Establishments:** All establishments engaged in building or other construction work must be registered with the appropriate government.

- **Wages and Benefits:** The Act mandates fair wages and provides for various benefits, including provident fund, gratuity, and insurance.
- **Working Hours:** It regulates working hours, including overtime pay and weekly rest days.
- **Safety, Health, and Welfare Measures:** The Act emphasizes the importance of safety, health, and welfare measures at construction sites, including provisions for first aid, drinking water, sanitation, and protective equipment.
- **Welfare Fund:** A welfare fund is established to provide benefits to construction workers, such as housing, education, and medical facilities.
- **Grievance Redressal:** The Act provides mechanisms for resolving grievances and disputes between employers and workers.

2. Understand & comply with Factories Act, 1948

Clause 6. Approval, Licensing and Registration of Factories

1. Requiring the previous permission in writing of the State Government or The Chief Inspector to be obtained for the site on which factory is to be situated and for the construction or extension of any factory or class or description of factories
2. Requiring for the purpose of considering applications for such permission the submission of plans and specifications:
3. Prescribing the nature of such plans and specifications and by whom they shall be certified

Clause 7A General Duties of the Occupier

4. Every occupier shall ensure, so far as is reasonably practicable, the health, safety and welfare of all workers while they are at works in the factory.
5. Without prejudice to the generality of the provisions of sub-section (1), the matters to which such duty extends, shall include –
 - a) The provision and maintenance of plant and systems of work in the factory that are safe and without risks to health
 - b) The arrangements in the factory for ensuring safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances;
 - c) The provision of such information, instruction, training and supervision as are necessary to ensure the health and safety of all workers at work;
 - d) The maintenance of all places of work in the factory in a condition that is safe without risks to health and the provision and maintenance of such means of access to, and egress from, such places as are safe and without such risks;
 - e) the provision, maintenance or monitoring of such working environment in the factory for the workers that is safe, without risks to health and adequate as regards facilities and arrangements for their welfare at work.

Clause 7B General Duties of Manufacturers

1. Every person who designs, manufactures, imports or supplies any article for use in any factory, shall –
 - a) ensure, so far as is reasonably practicable, that the article is so designed and constructed as to be safe and without risks to the health of the workers when properly used;
 - b) Carry out or arrange for the carrying out of such tests and examination as may be considered necessary for the effective implementation of the provisions of clause (a)
 - c) Take such steps as may be necessary to ensure that adequate information will be available –
 - I. in connection with the use of article in any factory.
 - II. about the use for which it is designed and tested; and about any condition necessary to ensure that the article, when put to such use, will be safe, and without risks to the health of workers.

3.Key Provisions of the OSH Code 2020:

- **Scope of Application:** The Code applies to a wide range of establishments, including factories, mines, plantations, shops, commercial establishments, and more.
- **Health and Safety Standards:** The Code mandates the establishment and maintenance of health and safety standards, including safe working practices, emergency procedures, and regular inspections.
- **Working Hours and Rest Periods:** It specifies maximum working hours, rest periods, and overtime regulations to prevent employee fatigue and promote work-life balance.
- **Welfare Facilities:** Employers are required to provide essential welfare facilities such as drinking water, first-aid, restrooms, and canteens.
- **Occupational Diseases:** The Code addresses occupational diseases and provides for compensation and rehabilitation measures for affected workers.
- **Safety Committees:** The formation of safety committees at the workplace is mandatory to promote safety awareness and incident prevention.
- **Inspection and Enforcement:** The Code empowers inspectors to conduct inspections, issue notices, and impose penalties for non-compliance.

4. <https://www.cheggindia.com/general-knowledge/environment-protection-act-1986/>Key Provisions of EPA 1986

- **Environmental Protection:** The Act grants the Central Government authority to take all necessary steps to protect and improve the environment.
- **Pollution Control:** It empowers the government to establish authorities to prevent and control pollution in all its forms.

- **Environmental Standards:** The Act sets standards for various pollutants to ensure safe levels in the environment.
- **Hazardous Substances:** It regulates the handling and disposal of hazardous substances.
- **Public Participation:** It encourages public participation in environmental protection efforts.
- **Penalties:** The Act prescribes penalties for violations of its provisions.

Other Relevant Regulations

Electricity Act 2010 & 2003

- **Purpose:** Consolidates laws related to electricity generation, transmission, distribution, trading, and use.
- **Key Provisions:**
 - Promotes competition in the electricity industry.
 - Protects consumer interests.
 - Ensures electricity supply to all areas.
 - Rationalizes electricity tariffs.
 - Promotes efficient and environmentally friendly practices.
 - Establishes regulatory bodies like the Central Electricity Authority and State Electricity Regulatory Commissions.

National Building Code (NBC) – 2016

- **Purpose:** Provides guidelines for building construction and safety.
- **Key Provisions:**
 - Sets standards for structural design, materials, and construction practices.
 - Includes provisions for fire safety, earthquake resistance, and accessibility.
 - Covers a wide range of building types, including residential, commercial, and industrial.

National Fire Protection Association (NFPA) Regulations

- **Purpose:** Offers detailed standards for fire safety.
- **Key Provisions:**
 - Covers fire prevention, detection, and suppression systems.
 - Provides guidelines for emergency response and evacuation procedures.
 - Includes standards for specific industries and hazards.

Petroleum & Explosive Safety Organization (PESO)-Explosive Act 1884

- **Purpose:** Regulates the handling and storage of explosives.
- **Key Provisions:**
 - Licenses the manufacture, import, export, transport, sale, purchase, and storage of explosives.
 - Sets safety standards for explosives handling and storage facilities.
 - Provides for the investigation of accidents involving explosives.

Gas Cylinders Rule 2016

- **Purpose:** Governs the safety of gas cylinders.
- **Key Provisions:**
 - Sets standards for the design, manufacture, testing, filling, transport, storage, and use of gas cylinders.
 - Requires periodic inspection and testing of gas cylinders.
 - Provides for the safe handling and disposal of gas cylinders.

The Boilers Act 1923

- **Purpose:** Regulates the operation and maintenance of boilers.
- **Key Provisions:**
 - Requires the registration of boilers.
 - Sets standards for the design, construction, installation, and operation of boilers.
 - Provides for the inspection and testing of boilers.
 - Requires the appointment of boiler attendants.

Workmen Compensation Act 1923 & Employee State Insurance Act 1948

- **Purpose:** Provides social security benefits to workers.
- **Key Provisions:**
 - Provides compensation for work-related injuries and diseases.
 - Provides medical benefits, disability benefits, and death benefits.
 - Provides for maternity benefits and unemployment benefits.

Motor vehicle Act 1988

- **Purpose:** Regulates road safety and vehicle operations.
- **Key Provisions:**
 - Sets standards for vehicle design, manufacture, and registration.
 - Provides for the licensing of drivers.
 - Sets speed limits and traffic rules.

- Provides for the punishment of traffic offenses.

First Aid at workplaces and training on first aid

- **Purpose:** Mandates first aid facilities and training for employees.
- **Key Provisions:**
 - Requires employers to provide first aid facilities at the workplace.
 - Requires employers to train employees in first aid.
 - Provides for the appointment of first aid personnel.

6.2.2. 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)

6.2.3. Say

- Describe statutory regulation related to occupation safety, health, and environment of the worksite.

6.2.4. Explain

- Describe statutory regulation related to occupation safety, health, and environment of the worksite.

6.2.5. Activity

Statutes and Legislative Requirements in Health and Safety (SSD/VSQ/N0131)

- **Objective:** To understand the key statutes, laws, and legislative requirements related to health and safety, and to practice applying these legal principles in real-world scenarios.
- **Activity Setup:**
 - Divide the class into small groups (4-5 students per group).
 - Provide each group with a list of **statutes and legislative requirements** relevant to health and safety (e.g., the Factories Act, 1948; the Occupational Safety, Health and Working Conditions Code, 2020; the Employees' State Insurance Act, 1948; the Environment Protection Act, 1986; etc.).
 - Prepare a set of **hypothetical workplace scenarios** (e.g., a construction site, a factory, an office, a chemical plant) for each group to analyze.
 - Distribute a **legislation reference sheet** that highlights the key aspects of these laws and regulations, including obligations of employers, rights of workers, and specific safety measures.
- **Instructions:**
 1. **Understanding the Statutes:**
 - Begin by reviewing key statutes and legislative requirements in health and safety, covering the following:
 - **Factories Act, 1948:** Regulations on safety, health, and welfare of workers in factories.

- **Occupational Safety, Health, and Working Conditions Code, 2020:** Consolidated guidelines on worker safety, working conditions, and occupational health.
- **Employees' State Insurance Act, 1948:** Provisions for workers' compensation, medical benefits, and insurance in case of accidents.
- **Environment Protection Act, 1986:** Guidelines for maintaining environmental safety and compliance with pollution control.
- **Other Relevant Legislation:** National Building Code (NBC), Fire Safety regulations, etc.

2. Scenario Analysis:

- Each group receives a workplace scenario and is asked to **identify which statutes and regulations apply** to the situation. For example:
 - In a **construction site scenario**, they must identify regulations related to worker safety, use of personal protective equipment (PPE), fall protection, and machinery safety.
 - In a **factory setting**, they must consider issues like machinery safety, worker welfare (e.g., sanitation, lighting), and emergency procedures.
 - In an **office environment**, they should look at ergonomics, fire safety regulations, and workplace safety training.
- Each group should also identify potential **legal violations** or non-compliance in their assigned scenario.

3. Research and Application:

- After identifying relevant laws, groups will **research the specific legislative provisions** that apply to their scenario. They should:
 - Find the sections of the statutes that specifically address the issues in their scenario.
 - Discuss the **legal obligations** of employers and the **rights of workers** within the context of health and safety.
 - Identify **consequences for non-compliance** (e.g., penalties, legal action, fines).

4. Develop an Action Plan:

- Based on the identified statutory requirements, each group must develop an **action plan** for the employer in the scenario, outlining:
 - Necessary steps to ensure compliance with the relevant laws.
 - Proposed measures to address safety hazards and health concerns.
 - Ways to communicate safety policies and procedures to workers.
 - Procedures for monitoring and enforcing compliance.

5. Presentation:

- Each group presents their analysis and action plan to the class. Their presentation should cover:
 - The statutes they reviewed and how they apply to the scenario.
 - The key health and safety obligations for the employer.
 - Recommended actions to comply with the legal requirements.
 - Potential penalties or consequences of non-compliance.
- After each presentation, allow for questions and feedback from the class.

- **Discussion:**

- Discuss the importance of understanding and adhering to statutory and legislative requirements in maintaining a safe workplace.
- Emphasize the role of health and safety regulations in preventing workplace accidents, protecting workers' rights, and promoting a culture of safety.
- Explore how different industries (construction, manufacturing, healthcare, etc.) have unique legal requirements.
- **Conclusion:**
- Recap the importance of statutory and legislative requirements in health and safety and their role in safeguarding workers and the environment.
- Reinforce that compliance with these laws is not only a legal obligation but also crucial for creating a safe and healthy workplace.
- Encourage students to view health and safety regulations as tools for both compliance and continuous improvement in workplace safety.

6.2.6. 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

6.2.7. Summary

- BOCW Act, 1996: Apply safety, health, and environmental compliance as per the Building and Other Construction Workers (BOCW) Act.
- Factories Act, 1948: Implement safety, health, and environmental regulations according to the Factories Act.
- OSH Code 2020 & OSHA: Comply with safety, health, and environmental requirements outlined in the Occupational Safety and Health Code and OSHA standards.
- Environment Protection Act, 1986 & ILO Guidelines: Adhere to environmental protection guidelines and ILO standards for EHS compliance.
- Oil Industry Safety Directorate (OSID): Follow safety regulations as per OSID guidelines.
- Mines Vocational Training Rules - DGMS: Ensure compliance with DGMS rules for safety in mining operations.
- Electricity Act, 2010 & 2003: Apply safety and regulatory obligations related to electricity and electrical installations.
- National Building Code (NBC) - 2016: Follow safety guidelines outlined in the National Building Code for construction and building safety.
- National Fire Protection Association (NFPA): Implement fire safety regulations as per NFPA standards.

- PESO - Explosive Act 1884: Ensure compliance with the Explosive Act and PESO regulations for handling explosives.
- Gas Cylinders Rule, 2016: Apply regulatory obligations for the safe use and handling of gas cylinders.
- Boilers Act, 1923: Follow regulations for the safety and operation of boilers.
- Workmen Compensation Act, 1923 & ESI Act, 1948: Adhere to worker compensation and employee state insurance compliance.
- Motor Vehicle Act, 1988: Ensure compliance with road safety regulations under the Motor Vehicle Act.
- First Aid Training: Provide first aid training and ensure its implementation at workplaces.

6.2.8. Exercise

1. What does the BOCW Act of 1996 primarily address?
 - A) Environmental Protection
 - B) Construction Workers' Safety
 - C) Oil Industry Regulations
2. Under the BOCW Act, who is responsible for ensuring safety measures at construction sites?
 - A) Only the workers
 - B) The employer and the contractor
 - C) Government inspectors only
 - D) The workers' unions
3. According to the BOCW Act, which body is responsible for enforcing compliance with safety regulations? (PC1)
 - A) Local police
 - B) Chief Inspector of the State
 - C) Ministry of Labour and Employment
 - D) Trade unions
4. What is a consequence of non-compliance with the Factories Act, 1948?
 - A) Increased taxes
 - B) Legal penalties
 - C) Improved working conditions
 - D) Employee promotions
5. Under the Factories Act, which of the following is a key responsibility of the factory manager?
 - A) To provide entertainment facilities for workers
 - B) To ensure compliance with health and safety regulations
 - C) To manage financial accounts of the factory
 - D) To conduct recruitment drives
6. How often must employers conduct safety training according to OSHA standards?
 - A) Only during employee onboarding
 - B) Annually or as needed based on workplace changes

- C) Every five years
 D) Training is not mandatory
7. What does the Environment Protection Act, 1986 aim to prevent?
 A) Worker exploitation
 B) Air and water pollution
 C) Traffic accidents
 D) Natural disasters
8. True or False: The Health and Safety at Work Act is a key piece of legislation that outlines the duties of employers and employees regarding workplace safety.
9. True or False: Health and safety legislation only applies to industrial workplaces, not offices or administrative environments.
10. True or False: Employers are legally required to carry out risk assessments to identify and mitigate potential hazards in the workplace.
11. True or False: Employees are not responsible for their own safety or the safety of others under health and safety laws.

7. Unit 7 NOS 6: Employability Skills (DGT/VSQ/N0102)

7.1. Key Learning Outcomes

- Introduction to Employability Skills Constitutional values - Citizenship
- Becoming a Professional in the 21st Century Basic English Skills
- Career Development & Goal Setting Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy Essential Digital Skills
- Entrepreneurship Customer Service
- Getting ready for Apprenticeship & Jobs

7.2. Unit 7.1: Preparing for Employment & Self Employment

7.2.1. Unit Objectives

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

- 1. Develop Job Readiness Skills:**
Understand the key skills and attributes required for gaining employment or self-employment.
- 2. Create Effective Job Search Strategies:**
Learn to develop a professional resume, cover letter, and online profiles.
- 3. Prepare for job interviews and networking opportunities.**
Explore Self-Employment Opportunities:
- 4. Identify potential self-employment ideas and business opportunities.**
Understand the basics of starting and managing a small business.
- 5. Understand Employment Rights and Responsibilities:**
Gain knowledge of workplace rights, legal requirements, and professional ethics.

6. Enhance Personal Branding:

Build and enhance personal branding for career advancement and self-promotion.

7. Develop Financial and Organizational Skills:

Learn essential financial planning and organizational skills for managing a job or business.

7.2.2. 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)

7.2.3. Say

Tell the participants that when an interviewer asks you to say something about yourself, he/she is not asking you to present your life history.

- Introduction should be short and crisp, and should present you in a positive light. It should include the following points:

- o Any work experience that you might have
- o A brief summary of your educational qualifications
- o Your strengths and achievements
- o Any special projects that you might have been part of
- The following topics should be avoided during an introduction:
 - o Detailed description of your family (unless you are specifically asked to do so)
 - o Too much information about your weaknesses
 - o Information that is not true

7.2.4. Do

- Congratulate each participant for making their first attempt towards creating an effective resume.
- As a follow up activity, you can suggest them to prepare their own resume and show it to you the next day.

7.2.5. Role Play

Conduct a role play for the situation given.

Role Play – Situation 2

- The interviewer will start by asking the interviewee a few generic questions such as:
 - o What is your name?
 - o Tell me something about yourself?
 - o Can you tell me something about your family?
- Then, at the end of the interview, ask the interviewee:
 - o There are over 200 people who have applied for this job, some with excellent work experience. Why should I hire you?

7.2.6. 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

7.2.7. Summary

Job Readiness:

Develop skills for seeking and securing employment or starting a business.

Job Search Tools:

Create a professional resume, cover letter, and online presence.

Prepare for job interviews and networking.

Self-Employment:

Identify and explore potential self-employment or business ideas.

Understand the basics of starting and managing a small business.

Workplace Rights

Learn about employment laws, rights, and responsibilities.

Personal Branding:

Build a strong personal brand for career or business growth.

Financial Planning:

Develop essential financial and organizational skills for employment or entrepreneurship.

7.2.8. Exercise

1. What is the first step in preparing for employment?

- A) Writing a resignation letter
- B) Creating a resume
- C) Opening a business
- D) Networking with friend

2. Which of the following is NOT typically required for self-employment?

- A) A business plan
- B) An employer to answer to
- C) Financial management skills
- D) Marketing and sales strategies

3. What should be included in a self-employment business plan?

- A) The business idea and goals
- B) A list of personal contacts
- C) A resume
- D) A job offer letter

4. True or False: In self-employment, you are responsible for your own business operations, including financial management and legal compliance.

5. True or False: Having relevant qualifications and work experience is the only factor to consider when preparing for employment.

6. True or False: Personal branding is important for both self-employment and traditional employment opportunities.

7.3. Unit 7.2. Understanding Entrepreneurship

7.3.1. Unit Objectives

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

1. Discuss the concept of entrepreneurship
2. Discuss the importance of entrepreneurship
3. Discuss the characteristics of an entrepreneur
4. Describe the different types of enterprises
5. List the qualities of an effective leader
6. Discuss the benefits of effective leadership
7. List the traits of an effective team
8. Discuss the importance of listening effectively
9. Discuss how to listen effectively
10. Discuss the importance of speaking effectively
11. Discuss how to speak effectively
12. Discuss how to solve problems
13. List the important problem solving traits
14. Discuss ways to assess problem solving skills

7.3.2. 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)

7.3.3. Say

Let's start this session with some interesting questions about Indian entrepreneurs

7.3.4. Do

Tell them that you will ask them few questions about a few entrepreneurs.

- Divide the class in to two groups.
- In turns ask the quiz questions to the groups.

- If the answer is incorrect pass the question to the other group.
- Share the answer if the groups are not able to answer.
- Congratulate the participants who answered correctly

7.3.5. Team Activity

Instructions:

Introduction

Begin by introducing the concept of entrepreneurship and the key elements of a business idea. Explain that every business starts with a creative idea, and an entrepreneur needs to identify market needs, create solutions, and turn them into viable products or services.

Brainstorming Session

Divide students into small groups (3-4 members each).

Ask each group to brainstorm business ideas by identifying a problem or need in their community or the marketplace.

Encourage students to think about various industries (technology, food, fashion, environment, etc.) and consider innovations or improvements to existing solutions.

Have each group write down their ideas on a flip chart or whiteboard.

Business Plan Basics

Briefly explain the key components of a simple business plan:

Business Idea: What product or service will the business provide?

Target Market: Who will buy the product/service?

Unique Selling Proposition (USP): Why is this business different from competitors?

Revenue Model: How will the business make money?

Group Business Pitch

Ask each group to select one business idea from their brainstormed list.

Instruct each group to prepare a brief business pitch (3-5 minutes) that covers:

What the business does

Who the target customers are

Why their idea is unique

How they plan to make money

Encourage students to present their ideas creatively and confidently.

Feedback and Discussion

After each group presents their business idea, provide constructive feedback on their pitch.

Engage the class in a discussion, asking them what they liked about the ideas, and what might be improved. Discuss what it takes to take an idea to market and how entrepreneurs must adjust their ideas based on feedback and market research.

Emphasize the importance of being able to clearly communicate business ideas to potential investors, customers, and partners.

Learning Outcome:

Students will understand the process of generating and developing business ideas.

Students will learn how to articulate a business concept and present it in a structured way.

Students will develop communication and critical thinking skills by evaluating the feasibility and potential of various business ideas.

7.3.6. 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

7.3.7. Summary

Close the discussion by summarizing about the opportunities for entrepreneurs in India

7.3.8. Exercise

1. Which of the following is a good practice for writing a professional email?

- A) Using a casual tone and slang
- B) Including a clear subject line
- C) Writing long paragraphs without breaks
- D) Not using a greeting

2. Which research method is often used to assess market opportunities for a new business?

- A) Historical analysis
- B) Surveys and questionnaires
- C) Personal opinions
- D) Guesswork

3. Which of the following is a primary motivation for entrepreneurs?

- A) Seeking a stable salary
- B) Solving problems and creating value
- C) Avoiding risk
- D) Working within a corporate structure

4. True or False: An entrepreneur's role in the economy is limited to running a business for profit.

5. True or False: The entrepreneurial mindset involves risk-taking, resilience, and the ability to adapt to challenges.

6. True or False: Entrepreneurship only applies to individuals who start their own businesses and does not include individuals who work within large corporations.