Ethiopian TVET-System

Irrigation & Drainage Construction

Level II

Based on, March 2017G.C. Occupational Standard

Module Title: Demonstrating Care & Safe Practices

TTLM Code: EIS IDC2 TTLM 0920v2

This module includes the following Learning Guides

LG 21: Follow Safe Work Procedure

LG Code: EIS IDC2 M 06 0920LO1-LG-21

LG 22: Maintain Personal Wellbeing in a Work Environment

LG Code: EIS IDC2 M06 0920LO2-LG-22

LG 23: Be Aware of and Report on Safety of Self and Others

LG Code: EIS IDC2 M06 0920LO2-LG-23

LG 24: Follow Emergency Procedures

LG Code: EIS IDC2 M06 0920LO4-LG-24

Instruction Sheet	Learning Guide 19: Follow Safe Work Procedure

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Describing typical hazards associated working with water.
- Checking relevant OHS, hazard control procedures and strategies
- Checking and applying Safety procedures for reporting hazards in the work environment.
- Specifying personal protective clothing and equipment.

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Describe typical hazards associated working with water.
- Check Relevant OHS, hazard control procedures and strategies
- Check and Apply Safety procedures for reporting hazards in the work environment.
- Specify Personal protective clothing and equipment.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4” ” in page 3, 18, 27 and 31respectively.
4. Accomplish the “self-check 1, self-check t 2, self-check 3 and self-check 4” in page 16, 25, 29 and 38 respectively.

Information Sheet-1	Finding and Describing Typical Hazards Associated Working with Water

1.1. Definition to hazards and hazard identification

There are many definitions for hazard but the most common definition when talking about workplace health and safety. A hazard is any source of potential damage, harm or adverse health effects on something or someone."The CSA Z1002 Standard "Occupational health and safety - Hazard identification and elimination and risk assessment and control" uses the following terms:

- Harm – physical injury or damage to health
- Hazard – a potential source of harm to a worker

Basically, a hazard is the potential for harm or an adverse effect (for example, to people as health effects, to organizations as property or equipment losses, or to the environment).

- Hazard identification is part of the process used to evaluate if any particular situation, item, thing, etc. may have the potential to cause harm. The term often used to describe the full process is risk assessment: we define in the following ways.
- Identify hazards and risk factors that have the potential to cause harm (hazard identification).
- Analyse and evaluate the risk associated with that hazard (risk analysis, and risk evaluation).
- Determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control).

Overall, the goal of hazard identification is to find and record possible hazards that may be present in your workplace. It may help to work as a team and include both people familiar with the work area, as well as people who are not – this way you have both the experienced and fresh eye to conduct the inspection.

1.2. Finding and describing typical hazards

There are numerous situations where people are at work on or near water. These include construction work at ports and docks, near flood banks, and work on the rivers and canals. Such work carries important and serious risks, which can only be properly considered and controlled through the process of risk assessment. The risks can be varied and, while the prevention of drowning must be a key priority, there are many other important risks that must be considered, including health hazards.

The legal requirements for working on or near water concentrate on the need to perform "suitable and sufficient" risk assessments, which can only be achieved if the risk assessment process is effectively planned and managed. It is up to companies and other organizations to make sure such planning and management is in place, otherwise tragedies can occur.

There are a number of hazards that need to be considered when working on or near water. These include both safety and potential health issues. They may include:

1.1.1. Moving machinery

Machinery and equipment have moving parts. The action of moving parts may have sufficient force in motion to cause injury to people. When assessing machinery and equipment for possible mechanical hazards, consider:

- machinery and equipment with moving parts that can be reached by people
- machinery and equipment that can eject objects (parts, components, products or waste items) that may strike a person with sufficient force to cause harm
- machinery and equipment with moving parts that can reach people, such as booms or mechanical appendages (arms)
- Mobile machinery and equipment, such as forklifts, pallet jacks, earthmoving equipment, operated in areas where people may gain access.

Table 1: common mechanical hazards and effect of risks

Hazard	Risk
Rotating shafts, pullies, sprockets and gears	Entanglement
Hard surfaces moving together	Crushing
Scissor or shear action	Severing
Sharp edge – moving or stationary	Cutting or puncturing
Cable or hose connections	Slips, trips and falls (e.g. oil leaks)

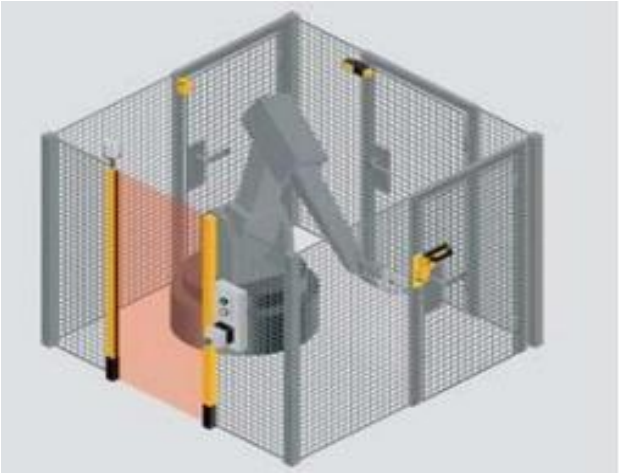

Figure 1: Robotic arm cause injury

Figure 2: Mobile plant operated cause injury

In figure 1 Robotic arms can reach over their base, move with remarkable speed and high force, and can cause injury if controls to separate people from moving plant are not implemented. In figure 2 Mobile plant operated in areas where people work may cause injury through collision. Traffic control and segregation are forms of control.

1.1.2. Materials handling

Manual handling is any transporting or supporting of a load by one or more workers. It includes the following activities: lifting, holding, putting down, pushing, pulling, carrying or moving of a load. The load can be an animate (people or animals) or inanimate (boxes, tools etc.) object. Manual handling is also sometimes called 'manual material handling' (MMH). Manual handling occurs in almost all working environments, though workers in construction, agriculture, hotels and restaurants are most likely to be exposed to heavy loads.

Manual handling can result in fatigue, and lead to injuries of the back, neck, shoulders, arms or other body parts. Two groups of injuries may result from manual handling:

- Cuts, bruises, fractures etc., due to sudden, unexpected events such as accidents
- Damage to the musculoskeletal system of the body (muscles, tendons, ligaments, bones, joints, bursa, blood vessels and nerves) as a consequence of gradual and cumulative wear and tear through repetitive manual handling. These injuries are called 'musculoskeletal disorders' (MSDs) and can be divided into 3 groups:
- Neck and upper limb disorders
- Lower limb disorders
- Back pain and back injuries.

Figure 3:Heavy load applied on the female

1.1.3. Working at heights

There are certain activities involving working at height that present an obvious hazard.

These include work from ladders, scaffolds and platforms. If a worker falls from a height of two or more meters, they are likely to sustain a serious injury, permanent disability or die. Work at height accounts for more fatalities than any other construction activity. Hazards and factors affecting the risk from work at height includes vertical distance of a fall, fragile roofs, roof light, voids sloping roofs, deteriorating material, unprotected edges, unstable or poorly maintained access equipment and adverse weather condition.

Figure 4: probability of hazards working at height

1.1.4. Dangerous surfaces

Slips, trips, and falls can happen in almost any environment. As construction sites often have uneven terrain, buildings at various stages of completion, and unused materials on site, it is unsurprising that slips, trips, and falls are a common hazard. Some causes of slips and trips and how to prevent them include:

- **Uneven surfaces**– The risk of these can be reduced by providing walkways that are clearly designated as walkways, having good conditions underfoot, and being well lit.
- **Obstacles**– Instances of slipping and tripping over obstacles can be dramatically reduced by everyone keeping their work and storage areas tidy and designating specific areas for waste collection.

- **Trailing cables**– Cordless tools should be used where possible. If this is not possible, cables should be run at high levels.
- **Wet or slippery surfaces**– If a surface is slippery with mud it should be treated with stone, and if it is slippery with ice it should be treated with grit. Any areas that are slippery should be signposted, and footwear with a good grip should be worn.

1.1.5. Oxygen deficiency, toxic gases and confined spaces

A confined space is an enclosed or partially enclosed area that is big enough for a worker to enter. It is not designed for someone to work in regularly, but workers may need to enter the confined space for tasks such as inspection, cleaning, maintenance, and repair. A small opening or a layout with obstructions can make entry and exit difficult and can complicate rescue procedures.

If the confined space contains toxic gases, workers who are simply near the opening may be at risk. Often the toxic gases are under pressure because of heat inside the confined space or when gases are generated inside the space. As a result, the concentration of toxic gases near the entrance to the confined space can be high enough to cause death. Examples of confined spaces include tanks, silos, storage bins, process vessels, pipelines, sewers, underground utility vault etc. in short, any area that can have a “confined” atmosphere.

Lack of oxygen is a leading cause of death among workers entering confined spaces. Low oxygen levels cannot be detected by sight or smell. You must test the air for this hazardous condition. A very low level of oxygen can damage the brain and cause the heart to stop after a few minutes.

Volatile and toxic substances:-The toxicity of a substance is its capacity to cause injury once inside the body. The main modes of entry into the body by chemicals in industry are inhalation, ingestion and absorption through the skin. Gases, vapors, mists, dusts, fumes and aerosols can be inhaled and they can also affect the skin, eyes and mucous membranes. Ingestion is rare although possible as a result of poor personal hygiene, subconscious hand-to-mouth contact, or accidents. The skin can be affected directly by

contact with the chemicals, even when intact, but its permeability to certain substances also offers a route into the body. Refer to the YouTube video below link

1.1.6. Live electrical conductors

Non-electrical workers who work in specified areas that may expose them to higher than normal exposure must receive electrical training that's specific to their job.

Electrical hazards that may be encountered by Non-electrical Workers are list and discussed below.

- Welders: - Welding is a joining process in which metals, or sometimes plastics, are heated, melted and mixed to produce a joint with properties similar to those of the materials being joined. Health hazards associated with welding, cutting, and brazing operations include exposures to metal fumes and to ultraviolet (UV) radiation. Safety hazards associated with these processes include burns, eye damage, electrical shock, cuts, and injury to toes and fingers.

Figure 5: Bare Hands - Requires Dry Insulating Gloves

- Heavy Equipment Operators: -Contact with overhead power lines is a major cause of fatalities in the construction industry.

Figure 6: Dump Truck Contacting Power Lines

- **Excavators:-**Buried power and communication lines are more prevalent today than ever before. These lines pose a special hazard to operators of equipment used during trenching and excavation activities.

Figure 6: Underground Hazards

- **Warehouse Workers: -** Warehouse workers are exposed to a wide variety of hazards. These may include chemicals, vehicular traffic, awkward working positions, height, and electrical shock potential. Of these the least addressed one is electricity. Therefore workers tend to ignore electrical safety conditions because they simply don't recognize the hazard.
- **Painters: -** are usually injured by electricity when they come in contact with energized systems through their paint roller or their ladder. These injuries can usually be avoided simply by being more aware of their surrounding and understanding that you must follow the basic rule when electrical energy is present.

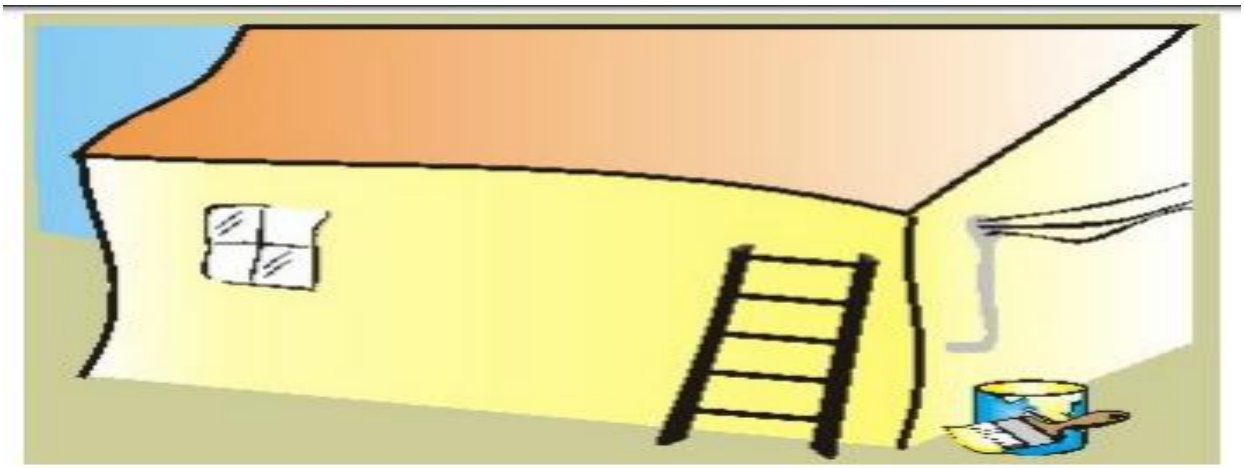

Figure 7: painting hazard

1.1.7. Painters sharps in water, including needles, glass and metal fragments

Anyone who comes into contact with a sharp instrument previously used on a patient is at risk. But, perhaps un surprisingly broken glass and other sharps are physical hazards. Broken glass also has the potential to be a health hazard if it is contaminated with toxic chemicals, blood, or infectious substances which may enter the body through a cut or puncture.

Figure 8: broken glass and needles that case of health hazard

1.1.8. Macerators and sharp mechanical devices

These hazards are those associated with power-driven machines, whether automated or manually operated. Mechanical hazards that are not properly guarded are implicated in thousands of workplace injuries every year.

1.1.9. Earth subsidence

non seismic ground failure involving land slide, land subsidence, expansive soils ,flooding and other earth subsidence are affect the life of population and any living things.

Figure 9: the effect of Earth subsidence on damaged of road and building

1.1.10. High pressure water jets

Risks associated with high pressure water jetting operations

- Conducting a walk through assessment of the workplace
- observing the work and talking to workers about how water jetting is carried out
- inspecting plant and equipment used during high pressure water jetting operations
- reading product labels, safety data sheets and manufacturer's instruction manuals
- talking to manufacturers, suppliers, industry associations and health and safety specialists, and
- Reviewing incident reports.

Some examples of high pressure water jetting hazards include:

- ✓ cutting and reaction forces from high pressure water jets
- ✓ flying debris

- ✓ hazardous chemicals and biological materials
- ✓ noise, and
- ✓ Water jetting plant and equipment.

1.1.11. Drowning

Drowning and near drowning are important health issues and merit special consideration in the development and management of water recreational facilities. Private pools (including ornamental, swimming and paddling pools) contribute significantly to drowning statistics, but are not addressed in this volume. Males are more likely to drown than females (WHO, 1998) and this is, in part, associated with higher exposure to the aquatic environment (through occupational and recreational uses). In many countries, alcohol consumption is one of the most frequently reported contributory factors associated with drowning's. Amongst children, lapses in parental supervision are the most frequently cited contributory factor in drowning's and near drowning's. Drowning and near drowning may often be associated with recreational water uses with low water contact, such as use of water craft (yachts, boats, canoes) and fishing (from water craft and from the water's edge or solid structures). Where these recreational water uses occur during cold weather, immersion cooling may be a significant contributor.

1.1.12. Traffic

Managing traffic at a construction workplace is an important part of ensuring the workplace is without risks to health and safety. Lack of the most effective way to protect pedestrians is to increase traffic hazards. it affects the human life and other effects.

1.1.13. Flooding

A flood is an overflow of water that submerges land that is usually dry. In the sense of "flowing water", the word may also be applied to the inflow of the tide. Flooding may occur as an overflow of water from water bodies, such as a river, lake, or ocean, in which the water overtops or break sleeves, resulting in some of that water escaping its usual boundaries, or it may occur due to an accumulation of rainwater on saturated ground in an aerial flood.

Floods can also occur in rivers when the flow rate exceeds the capacity of the river channel, particularly at bends or meanders in the water way. Floods often cause damage to homes and businesses if they are in the natural flood plains of rivers. While riverine flood damage can be eliminated by moving away from rivers and other bodies of water, people have traditionally lived and worked by rivers because the land is usually flat and fertileand because rivers provide easy travel and access to commerce and industry.
Some floods develop slowly, while others can develop in just a few minutes and without visible signs of rain. Additionally, floods can be local, impacting a neighborhood or community, or very large, affecting entire river basins.

- **Types of flood**
  - ✓ **Areal flood**

Floods can happen on flat or low-lying areas when water is supplied by rainfall or snowmelt more rapidly than it can either infiltrate or run off. The excess accumulates in place, sometimes to hazardous depths. Surfaces oil can become saturated, which effectively stops infiltration, where the water table is shallow, such as a flood plain, or from intense rain from one or a series of storms. Infiltration also is slow to negligible through frozen ground, rock, concrete, paving, or roofs. Areal flooding begins in flat areas like floodplains and in local depressions not connected to a stream channel, because the velocity of overland flow depends on the surface slope.

  - ✓ **Riverine (channel) flood**

Floods occur in all types of river and stream channels, from the smallest ephemeral streams in humid zones to normally-dry channels in arid climates to the world's largest rivers. When overland flow occurs on tilled fields, it can result in a muddy flood where sediments are picked up by run off and carried as suspended matter orbed load. Localized flooding may be caused or exacerbated by drainage obstructions such as land slides, ice, debris, or beaver dams.

Slow-rising floods most commonly occur in large rivers with large catchment areas. The increase in flow may be the result of sustained rainfall, rapid snow melt, monsoons, or tropical cyclones. However, large rivers may have rapid flooding events in areas with dry

climate, since they may have large basins but small river channels and rainfall can be very intense in smaller areas of those basins.

Rapid flooding events, including flash floods, more often occur on smaller rivers, rivers with steep valleys, rivers that flow for much of their length over impermeable terrain, or normally-dry channels.

The cause may be localized convective precipitation (intense thunder storms) or sudden release from an upstream impoundment created behind a dam, landslide, or glacier. In one instance, a flash flood killed eight people enjoying the water on a Sunday afternoon at a popular waterfall in a narrow canyon. Without any observed rainfall, the flow rate increased from about 50 to 1,500 cubic feet per second (1.4 to 42m^3/s) in just one minute.[4]Two larger floods occurred at the same site within a week, but no one was at the waterfall on those days. The deadly flood resulted from a thunderstorm over part of the drainage basin, where steep, bare rock slopes are common and the thin soil was already saturated.

- ✓ **Estuarine and coastal flood**

Flooding in estuariesis commonly caused by a combination of sea tidal surges caused by winds and low barometric pressure, and they may be exacerbated by high upstream river flow. Coastal areas may be flooded by storm events at sea, resulting in waves over-topping defences or in severe cases by tsunami or tropical cyclones.

- ✓ **Urban flooding**

Urban flooding is the inundation of land or property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers. Although sometimes triggered by events such as flash flooding or snow melt, urban flooding is a condition, characterized by its repetitive and systemic impacts on communities that can happen regardless of whether or not affected communities are located within designated floodplains or near any body of water. Aside from potential overflow of rivers and lakes, snow melt, storm water or water released from damaged water mains may accumulate on property and in public rights-of-way, seep through building walls and floors, or backup into buildings through sewer pipes,

toilets and sinks. The flood flow in urbanized areas constitutes a hazard to both the population and infrastructure.

- ✓ **Catastrophic flood**

Catastrophic riverine flooding is usually associated with major infrastructure failures such as the collapse of a dam, but they may also be caused by drainage channel modification from a land slide, earth quake or volcanic eruption.

Self-check 1	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your answer in the answer sheet provided (2 points each)

1. Which one of the following will be high risk construction work?
   A. where there is a risk of a person falling more than 2 meters;
   B. on telecommunications towers;
   C. involving demolition;
   D. involving the removal or likely disturbance of asbestos;
   E. involving structural alterations that require temporary support to prevent collapse;
   F. none of the above

2. What is the main purpose of hazard identification?
   A. To minimize the effect of a consequence
   B. For better risk management
   C. To characterize adverse effect of toxins
   D. To reduce probability of occurrence

3. What is the main objective of risk assessment?
   A. To evaluate hazard and minimize the risks
   B. Remediation of contaminated sites
   C. Hazard management
   D. To know source of pollutants

4. Which one of the following is case of typical hazards?
   A. Volatile and toxic substances?
   B. Dangerous surfaces
   C. Live electrical conductors
   D. Earth subsidence.

5. Which one of the following is an Electrical hazard that may be encountered by Non-electrical Workers?
   A. Warehouse Workers
   B. Painters
   C. Heavy Equipment Operators
   D. Welders

6. Which of the following are types of flood?
   A. Areal flood
   B. Riverine (Channel) flood
   C. Urban flooding
   D. All of the above

Note: Satisfactory rating - 6 points **Unsatisfactory - below 6points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Information Sheet 2	Identifying and Checking Relevant OHS, Hazard Control Procedures and Strategies

2.1. Overview of occupational health and safety and related legislation

The Act is designed to provide a broad framework for improving standards of workplace health and safety to reduce work-related injury and illness.

2.1.1. Objective of occupational health and safety and related legislation

- Secure the health, safety and welfare of employees and other people at work.
- Protect the public from the health and safety risks of business activities.
- Eliminate workplace risks at the source; and
- Involve employers, employees and the organisations that represent them in the formulation and implementation of health, safety and welfare standards.

To understand their obligations and safety requirements, hospitality organisations must have a comprehensive understanding of the following legislation as applies to their country:

- Workplace Health and Safety Act - which imposes obligations on people at workplaces to ensure workplace health and safety
- Workplace Health and Safety Regulations - describes what must be done to prevent or control certain hazards which cause injury, illness or death
- Codes of practices – these are designed to give practical advice about ways to manage exposure to risks common to industry.

2.1.2. The principles of health and safety protection

The 2004 Act now has the following health and safety principles:

- All people are given the highest level of health and safety protection that is reasonably practicable;

- Those who manage or control activities that give rise, or may give rise, to risks to health or safety are responsible for eliminating or reducing health and safety risks, so far as is reasonably practicable.
- Employers and self-employed people should be proactive and take reasonably practicable measures to ensure health and safety in their business activities.
- Employers and employees should exchange information about risks to health or safety and measures that can be taken to eliminate or reduce those risks; and
- Employees are entitled, and should be encouraged, to be represented on health and safety issue.

2.2. Hazard identification and removal and hazard control procedures

In general, hazards in construction project and other industry are likely to be found in the following;

- Struck by falling objects
- Eyes endangered by sharp objects, particles, chemicals
- Skin damaged by sharp objects, chemicals
- Limbs or body crushed by heavy objects
- Struck by moving plant and equipment
- Hearing damaged by excessive noise
- Respiration impaired by poor air supply, particles, chemicals
- Physical damage caused by heat, cold, weather
- Physical damage caused by falls, trips, slips.
- In order to identify hazards the following procedures are recommended:
- Past incidents/accidents are examined to see what happened and whether the incident/accident could occur again.
- Employees be consulted to find out what they consider are safety issues, I.e. ask workers about hazards near misses they have encountered as part of their work. Sometimes a survey or questionnaire can assist workers to provide information about workplace hazards.
- Work areas or work sites be inspected or examined to find out what is happening now. Identified hazards should be documented to allow further action. The work

environment, tool and equipment as well as tasks and procedures should be examined for risks.

- Information about equipment (e.g. plant, operating instructions) and Material Safety Data Sheets be reviewed to determine relevant safety precautions.
- Welcome creative thinking about what could go wrong takes place, i.e. what hazardous event could take place here?

2.2.1. Use of personal protective clothing and equipment procedures

Wearing personal protective equipment (PPE) can prevent accidents from happening. As a worker, you are responsible for the following:

- Making sure your uniform is well fitted.
- Keeping all uniforms clean and in good condition, not frayed or badly worn.
- Making sure sleeves are kept buttoned at the wrist, cuffs on overalls and trousers are be eliminated, and trouser legs are long enough to hang outside boots.
- Wearing specific personal safety equipment such as goggles, hearing protection, gloves, and aprons when required.

The senior company representative on site is responsible for the following responsibilities.

- Ensuring that personal protective clothing and equipment on site is stored in a secure place when not being used.
- That it is maintained promptly and correctly.
- That it is suitable for the purpose for which it is intended.
- That it fits the person who is to wear it.
- That the person using the equipment has been trained to use it correctly.
- That defective clothing and equipment is withdrawn from service pending repair or replacement.

2.2.2. Relevant manufacturer guidelines relating to the operation and use of equipment

It is always advisable to follow manufacturer's instructions to understand the operations of a piece of equipment. However, when we are at home generally the 'man' will throw

away the instructions. Then try and build or set up the equipment, get frustrated that it doesn't work, asks his partner to fish out the instructions from the dust bin and then admit defeat.

Manufacturer instructions provide us with technical information that can help form a risk assessment that will then allow us to develop suitable controls and wear protective equipment to protect us against the hazards associated to a machine or equipment.

Simply by reading the instructions and information provided by the manufacturer has potentially saved this company thousands of pounds of prosecution and compensation fines as well as the underlying costs of someone being off work, investigating incidents, re-investment in equipment etc.

2.2.3. Safety regulations procedures

It is a procedure applying before use something. These include material safety, personal safety, tools and equipment safety, site safety and others. Generally to improve safety regulation we applied the following procedures.

- Before you operate a machine, ensure that the dangerous part of the machine has been installed with a guard.
- Avoid going to any area within sufficient lighting as there may be some dangerous places which have not been provided with fencing.
- Keep vigilant all the time and watch out for moving cranes, hooks or other lifting equipment.
- Before you use any electrical installation or tool, check the condition of its electric cables.
- Avoid dragging electric cables on the ground or allowing the cables to come in to contact with water.
- Use electrical tools installed with an earth leakage circuit breaker.
- Use and handle chemicals with care.

2.2.4. Safe use of chemicals and toxic substances procedures

Chemicals may be encountered as reactants, solvents, catalysts, inhibitors, as starting materials, finished products, by-products, contaminants, or off-specification products.Toxic substance is simply a material which has toxic properties.

A toxic agent is anything that can produce an adverse biological effect. It may be chemical, physical, or biological in form. For example, toxic agents may be chemical (such as cyanide), physical (such as radiation) and biological (such as snake venom).

- **Safe use of chemicals and toxic substances procedures during storage**
  - ✓ All chemical products must be stored and labeled in accordance with the instructions on the safety sheet.
  - ✓ Chemicals must not be stored together with inflammable material and gas cylinders.
  - ✓ Do not store acids and alkalis together.
  - ✓ Do not store strong acids and organic substances together.
  - ✓ Do not store strongly oxidizing substances together with oxidisable substances.
  - ✓ Ethers and other peroxide-building substances must be stored in the dark and cool, in tightly sealed containers.
  - ✓ Chemical containers must be stored with closed lids when they are not being used.
  - ✓ Refrigerators and freezers for storage of chemicals must be of such a type that is specially made for this purpose. Chemicals and similar items must not be stored in refrigerators or freezers that are intended to store food.
  - ✓ Chemical stores must not have open floor drains. If there is a floor drain, it must be equipped with protection to prevent leakage. This means for example tight fitting lids, a manual opening and closing function in the drain or other comparable arrangement.
  - ✓ Equipment for handling and cleaning up spillage must be in readiness and suitable for the chemicals that are stored. It is suitable to have equipment placed outside the chemical store.
  - ✓ It is important for the fire classification of storage lockers and rooms to match the types and amounts of chemicals stored therein.
  - ✓ Combustible material must be stored in fireproof cupboards or in separate spaces.

- **Safe use of chemicals and toxic substances procedures during Labelling**
  - ✓ Chemicals must normally be stored in their original packaging. If you need smaller amounts of a chemical, the new packaging must be suitable for the substance. Labeling must be in accordance with the original packaging. It must always be possible to know what substance the packaging contains and what risks there may be.

- **Safe use of chemicals and toxic substances procedures during Handling of chemicals**
  - ✓ Always read the safety data sheet and the text on the packaging carefully when you are about to use a product with which you are not completely familiar with the risks. Contact the environmental coordinator if you are unsure about handling methods.
  - ✓ Use personal protection equipment (e.g. gloves, face mask) where necessary.
  - ✓ Surplus chemicals and hazardous waste must be dealt with in accordance with the information in the safety data sheet.
  - ✓ First Aid equipment must be available.
  - ✓ Workplaces must be cleaned regularly. There must not be chemical spills on the floor.

- **Safe use of chemicals and toxic substances procedures during Personal hygiene**
  - ✓ Smoking is forbidden in the factory area outside specially assigned smoking areas. If you smoke, remember to wash your hands before lighting up a cigarette. Otherwise chemical substances can be transferred by skin contact or breathed in.
  - ✓ Immediately wash off chemical traces from the skin. Read the safety data sheet or ask your immediate superior if you are not sure what needs to be done.
  - ✓ Food products must not be stored or eaten in premises where chemicals are handled.
  - ✓ Work clothes must be kept clean. If you have been in contact with chemicals, take a shower before you go home.

2.3. Hazard prevention and control strategies

The concepts of risk assessment and risk management are fundamental to prevention and control of risks to safety and health in the workplace. The key aspects of risk assessment include making sure all relevant risks are taken into account, checking the efficiency of the safety measures adopted, documenting the outcomes of the assessment and reviewing the assessment regularly to keep it updated. Workers have a right to reduction in ill health and accidents given that these things can be prevented or reduced if risk assessment and risk management are done.

2.3.1. Principles deriving from the legislative framework

Prevention means the act or practice of stopping something bad from happening. In the sense of OSH it means the avoidance of the risk or hazard at work. In contrast to prevention, control is the term to describe mitigation activities where the risk cannot be prevented.

The Framework Directive contains general principles concerning:

- prevention of risks,
- protection of safety and health, assessments of risks,
- elimination of risks and accidents,
- the informing, consultation, balanced participation in accordance with national laws and / or practices
- and training of workers and their representatives,
- General guidelines for the implementation of the said principles.
- Obligations of employers, employees and other groups.

Self-check 2	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet (2 points each)

1. If the fire alarm sounds in the building which one are the best steps to prevent them?
   A. Remain calm.
   B. Direct individuals to leave the building.
   C. Do not take time to grab personal belongings or bags
   D. Keep others calm.
   E. All of the above

2. Which one is cause occurrence of hazards?
   A. Struck by falling objects
   B. Eyes endangered by sharp objects, particles, chemicals
   C. Skin damaged by sharp objects, chemicals
   D. Limbs or body crushed by heavy objects
   E. What is the best safety rule?
   F. All of the above

3. Why does site history have to be considered for hazard identification?
   A. To estimate the risk
   B. To calculate carcinogenic exposure
   C. To know the probable source and causes of contamination on site
   D. For determination of remedial actions

4. Which one is procedures of Safe use of chemicals and toxic substances during Handling of chemicals
   A. Use personal protection equipment (e.g. gloves, face mask) where necessary.
   B. Surplus chemicals and hazardous waste must be dealt with in accordance with the information in the safety data sheet.
   C. First Aid equipment must be available.

D. Workplaces must be cleaned regularly. There must not be chemical spills on the floor.

E. All of the above

Note: Satisfactory rating 4 and above points Unsatisfactory - below 4 points

Answer Sheet

Name: _____ Date: _____

Multiple Choice Questions

1. _____ **4.** _____

2. _____

3. _____

Score = _____

Rating: _____

Information sheet-3	Checking and applying safety procedures

3.1. Checking and applying safety procedures

A safe work procedure (SWP), which may also be referred to as a job safety analysis (JSA), job hazard analysis (JHA) or safe work method statement (SWMS), is a procedure which describes how work is to be carried out in a safe and standardized process. SWPs outline the hazards, risks and associated controls measures to be applied to ensure the task/activity is conducted in a way to reduce the risk of injury.

SWPs provide information to assist workers to perform tasks safely. They include:

- Describing how the work is carried out.
- Identifying the work activities assessed as having safety or environmental risks.
- Stating what the safety and environmental risks are.
- Describing the control measures that will be applied to the work activities.
- Describing how measures will be implemented to undertake the work in a safe and environmentally sound manner.
- Outlines the legislation, standards and codes to be complied with and.
- Describing the equipment used in the work, the qualifications of the personnel undertaking the work and the training required to undertake the work in a safe manner.

3.1.1. Applying safety procedures for reporting hazards

- **Information gathering: -** Once the situation is reported, orally or in writing, the supervisor reconstitutes the facts surrounding the accident or incident to determine what really happened. The facts must be measurable and quantifiable.
- **Determine the contributing factors: -** Logical ties between the facts reveal the factors that contributed to the accident or incident. To find out whether a piece of information or an event has played a role in the accident, the investigator has to ask three questions:
  - ✓ Is it truly a fact?
  - ✓ If yes, is it abnormal?
  - ✓ If yes, has this abnormal fact contributed to the accident?

- **Classify the factors: -** Once the contributing factors are determined, it's best to classify them. One way is to break them down as follows:
  - ✓ Organization and process factors (work practices, instructions issued - clarity and adequacy; supervision; personal protective equipment - selection and use)
  - ✓ Human factors
  - ✓ Task factors
  - ✓ Equipment and material factors (tools, machines, facilities, vehicles, and other hardware used; the condition of equipment)
  - ✓ Physical and social environment factors (the atmosphere, comfort, stress levels, etc. the workplace)

- **Establish immediate and underlying causes: -** By collecting evidence and classifying contributing factors, you can usually identify the immediate causes of the event. After, you need to establish what led to the immediate causes, that is, the underlying causes of the accident or incident. To this end, establish the sequence of events leading to the accident or incident; this will also help you formulate recommendations and identify preventive measures.

The following is a general list of safety precautions you must observe in any work area:

- ✓ Don't fool around. "Horseplay" is one of the biggest causes of injuries on the job and it may be grounds for dismissal.
- ✓ Never work while under the influence of drugs or alcohol, as you are a hazard to yourself and your co-workers.
- ✓ Pay particular attention to moving objects, such as equipment, dollies, mixers, and slicers.
- ✓ Walk; do not run, in the work areas.
- ✓ Stay completely alert on the job.
- ✓ Avoid back strain by lifting properly.

Self-check 3	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet (2 pts each)

1. Which one safe work procedures is for provide information to assist workers to perform tasks safely.
   A. Describing how the work is carried out
   B. Identifying the work activities assessed as having safety or environmental risks
   C. Stating what the safety and environmental risks are
   D. Describing the control measures that will be applied to the work activities
   E. All of the above

2. one of the following is Applying safety procedures for reporting hazards Which one
   A. Information Gathering
   B. Determine the contributing factors
   C. Classify the factors
   D. Establish immediate and underlying causes E. All of the above

3. one of the following is Applying safety procedures for reporting hazards Which one
   A. Walk, do not run, in the work areas
   B. Stay completely alert on the job.
   C. Avoid back strain by lifting properly.
   D. Never work while under the influence of drugs or alcohol, as you are a hazard to yourself and your co-workers. E. All of the above

Note: **Satisfactory rating – 3 points** **Unsatisfactory - below 3 points**

Answer Sheet-1

Name: _____ Date: _____

Multiple Choice Questions

1. _____ **3.** _____
2. _____

Score = _____

Rating: _____

Information sheet-4	Specifying personal protective clothing and equipment

4.1. Types of personal protective clothing and equipment

Personal protective equipment and protective clothing should comply with standards set by the competent authority, taking into account, as far as possible, ergonomic principles. Employers should provide the workers with the appropriate means to enable them to use the individual protective equipment and should require and ensure its proper use. Refer this YouTube for more information. The common personal protective equipment used in construction industry are listed below.

4.1.1. Hand protection

Hands are extremely vulnerable to accidental injury, and in construction more injuries are caused to hands and wrists than to any other part of the body. Gloves with a thin plastic coating, can be used for work requiring dexterity, such as bricklaying and component assembly.

Figure 9: Gloves with a thin plastic coating

4.1.2. High visibility clothing

Clear or colored goggles, a screen, a face shield or other suitable device when likely to be exposed to eye or face injury from airborne dust or flying particles, dangerous substances, harmful heat, light or other radiation, and in particular during welding, flame cutting, rock drilling, concrete mixing or other hazardous work.

Figure 10: safety glass to protect eye from any injuries

4.1.3. Hair covering

Falling objects, overhead loads and sharp projections are to be found everywhere on construction sites. A small tool or bolt falling from 10 or 20m high can cause serious injuries or even death if it strikes an unprotected head. Head injuries often occur when moving and working in a bent position, or when arising from such a position. To prevent this problem we use personal protective equipment like safety helmets.

Figure 11: head protective structure

4.1.4. Safety harness or 'fall arrester

The majority of fatal accidents in construction are due to falls from heights. The majority of fatal accidents in construction are due to falls from heights. Where work cannot be done from a scaffold or ladder, or from a mobile access platform, the wearing of a safety harness may be the only way to prevent serious injury or death. in maintenance work on steel structures such as bridges and pylons we use safety belt and safety harness.

Figure 12: typical Safety harness

4.1.5. Safety headwear and footwear

Sharp objects such as nails, crushing by falling materials which have not been knocked down or removed can be penetration of the sole and affected the foot of the leg. This

problem will be minimized by wearing protective footwear. The type of safety shoes or boots to be used will depend on the nature of the work (e.g. the presence of ground water on construction sites), but all safety footwear should have an impenetrable sole and uppers with a steel toe-cap.

Figure 13: types of safety boots

4.1.6. Hearing protection

Use appropriate earmuffs or ear plugs if you work with or near a noisy machine and make sure they fit properly and are comfortable.

Figure 14: Types of kit offers ear and eye protection

4.1.7. Noise protection

Use appropriate earmuffs or ear plugs if you work with or near a noisy machine and make sure they fit properly and are comfortable. Wear them all the time you are in a noisy part of the site.

4.1.8. Waterproof and Hi-Viz clothing

Wear waterproof clothing and head coverings when working in adverse weather conditions. Provision of waterproof clothing makes economic sense to the employer because it allows work to continue in wet conditions (assuming of course that workers are not forced to work in these conditions anyway).Modern fabrics 'breathe' so allowing moisture to escape and avoid condensation. Modern fabrics are also light and strong, so they are much easier to work in than those available a couple of decades ago. Modern water proof clothing is also usually high visibility ('hi-viz'). A lightweight hi-viz waistcoat for use in warm weather.

Figure 15: Waterproof and Hi-Viz clothing

Figure 16: A lightweight hi-viz waistcoat for use in warm weather

4.1.9. Respiratory equipment by using

On construction sites there are often tasks where harmful dust, mist or gas may be present, such as:

- Rock crushing and handling
- Sandblasting
- Dismantling buildings containing asbestos insulation
- Welding or cutting materials with coatings containing zinc, lead, nickel or cadmium
- Paint spraying

The correct type of respirator will depend upon the hazard and the work conditions, and you need to be trained in its use, cleaning and maintenance. Advice on suitable types of respirator and filter should be sought from appropriate safety and health authorities. The simplest masks are disposable paper types. Remember that these are only effective against nuisance dusts. Whenever there is doubt about the presence of toxic substances in the atmosphere, a respirator must be worn. The simplest masks are disposable paper types. Remember that these are only effective against nuisance dusts.

Figure 17: personal protective equipment using mask

Self-check 4	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your answer in the sheet (2 pts each)

1. Which one is not Types of personal protective clothing and equipment?
   A. safety glass
   B. Masks
   C. Gloves
   D. Safety headwear and footwear
   E. None of the above

2. Use appropriate ---------- if you work with or near a noisy machine?
   A. safety glass
   B. Masks
   C. Gloves
   D. earmuffs or ear plugs

3. Which type of PPE use for sharp objects such as nails, crushing by falling materials which have not been knocked down or removed can be penetration of the sole and affected the foot of the leg
   A. safety glass
   B. Masks
   C. Gloves
   D. Safety headwear and footwear
   E. None of the above

4. A small tool or bolt falling from 10 or 20m high can cause serious injuries or even death if it strikes an unprotected head which type of PPE use to prevent hem?
   A. Safety helmets
   B. safety glass
   C. Gloves
   D. Safety headwear and footwear
   E. None of the above

Note: **Satisfactory rating – 4 points** **Unsatisfactory - below 4 points**

Answer Sheet

Name: _____ Date: _____

Multiple Choice Questions

1. _____ **3.** _____

2. _____ **4.**_____

Score = _____

Rating: _____

Instruction sheet	Learning guide 20: Maintain Personal Wellbeing in a Work Environment

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Assessing risks at work place
- Following procedures for maintaining a tidy and clean personal work area.

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Assess Risks to personal wellbeing which may affect safe performance and follow procedures to address them.
- Follow Procedures for maintaining a tidy and clean personal work area.

Learning instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, and Sheet 2, in page 3 and 8respectively.
4. Accomplish the “Self-check 1and Self-check 2” in page 7 and 13 respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1in page 15**.**
6. Do the “LAP test” in page – 16 (if you are ready).

Information sheet-1	Assessing Risks to Personal Wellbeing

1.1. Risks of personal wellbeing

Health means everyone achieving his or her potential, to enjoy complete physical, mental and social wellbeing. Healthy people contribute to the health and quality of the society and family in which they live, work and play. Health is much more than an absence of disease or disability. An individual's health, and that of the country, affects the quality of society as a whole. Health is an essential resource for everyday life, a public good, and an asset for health and human development. Wellbeing is an integral part of this definition of health. It reflects the quality of life and the various factors which can influence it over the course of a person's life.

1.1.1. Smoking, alcohol and drug use

The abuse of psychoactive substances including alcohol, tobacco and narcotic and psychotropic drugs-causes enormous damage to the health and productivity of nations. It undermines the quality of life of individuals and their families, and threatens the welfare of communities. The health consequences of abuse are also grave, and range from violence and delinquency to liver cirrhosis, brain damage and lung cancer. Treatment of dependence on psychoactive substances is still imperfect, can take a long time and may be expensive.

1.1.2. Lack of sleep

Most people don't get enough sleep. We are a society that burns the candle at both ends, a nation where people stay up all night to study, work, or have fun. However, going without adequate sleep carries with it both short- and long-term consequences. In the short term, a lack of adequate sleep can affect judgment, mood, ability to learn and retain information, and may increase the risk of serious accidents and injury. In the long

term, chronic sleep deprivation may lead to a host of health problems including obesity, diabetes, cardiovascular disease, and even early mortality.

The price of insufficient sleep may be poor health. Study after study has revealed that people who sleep poorly are at greater risk for a number of diseases and health problems.

1.1.3. Poor diet

These unhealthy eating habits can affect our nutrient intake, including energy (or kilojoules) protein, carbohydrates, essential fatty acids, vitamins and minerals as well as fiber and fluid. In the short term, poor nutrition can contribute to stress, tiredness and our capacity to work, and over time, it can contribute to the risk of developing some illnesses and other health problems such as:

- being overweight or obese
- tooth decay
- high blood pressure
- high cholesterol
- heart disease and stroke
- type-2 diabetes
- osteoporosis
- some cancers
- depression
- Eating disorders.

1.1.4. Lack of exercise

Lack of physical activity has clearly been shown to be a risk factor for cardiovascular disease and other conditions:

- Less active and less fit people have a greater risk of developing high blood pressure.
- Physical activity can reduce your risk for type 2 diabetes.
- Studies show that physically active people are less likely to develop coronary heart disease than those who are inactive. This is even after researchers accounted for smoking, alcohol use, and diet.

- Lack of physical activity can add to feelings of anxiety and depression.
- Physical inactivity may increase the risk of certain cancers.
- Physically active overweight or obese people significantly reduced their risk for disease with regular physical activity.
- Older adults who are physically active can reduce their risk for falls and improve their ability to do daily activities.

1.1.5. Stress

Stressors have a major influence upon mood, our sense of well-being, behavior, and health. Acute stress responses in young, healthy individuals may be adaptive and typically do not impose a health burden. However, if the threat is unremitting, particularly in older or unhealthy individuals, the long-term effects of stressors can damage health. The relationship between psychosocial stressors and disease is affected by the nature, number, and persistence of the stressors as well as by the individual's biological vulnerability (i.e., genetics, constitutional factors), psychosocial resources, and learned patterns of coping. Psychosocial interventions have proven useful for treating stress-related disorders and may influence the course of chronic diseases.

1.1.6. Not using appropriate methods when lifting or moving heavy objects

- A risk assessment of manual tasks will help you identify: Postures, movements and forces that pose a risk and at what point they may become dangerous.
- Why they are happening and what needs to done for it to be fixed.
- Don't forget to also identify and manage the psychosocial risks that can increase the risk of musculoskeletal disorders.
- A well-designed work area, work procedures, ergonomically designed tools and equipment will help eliminate or reduce risk factors associated with hazardous manual tasks. Failure to appropriately manage hazardous manual tasks may result in a breach of WHS laws.

General guidance is available in the model Code of Practice: How to Manage Work Health and Safety Risks and specific advice can be found in the model Code of Practice: Hazardous Manual Tasks and Identify, assess and control hazards.

1.1.7. Not wearing proper personal protective clothing

Personal Protective Equipment or PPE as it is commonly known, has been designed specifically to protect employees in the work environment. Not only is it important to protect employees but also to protect the employer from unwanted legal claims. Furthermore, PPE is often a legal requirement and it is the responsibility of the employer to ensure employees wear protective clothing and observe safety and health regulations. It is also a responsibility, which employees must take seriously.

1.1.8. Not using appropriate personal protective equipment

The following are the main risks of not using appropriate personal protective equipment

- The lungs will affected, example. from breathing in contaminated air
- The head and feet will affected, example from falling materials
- The eyes, example from flying particles or splashes of corrosive liquids
- The skin will affected, example from contact with corrosive materials
- The body will affected, example from extremes of heat or cold

Self-check 1	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet (1 pt each)

1. Which one of the following is causes Risks of personal wellbeing?
   A. Lack of exercise
   B. Stress
   C. Lack of sleep
   D. Smoking, alcohol and drug use
   E. All of the above

2. Which one of the following is the outcome risk of Poor diet
   A. tooth decay
   B. high blood pressure
   C. high cholesterol
   D. heart disease and stroke
   E. All of the above

3. Which one is the effect not using appropriate personal protective equipment?
   A. The eyes
   B. The head and feet will affected
   C. The lungs will affected
   D. The skin will affected
   E. All of the above

Note: Satisfactory rating - 3 points **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Multiple Choice Questions

1. _____ 3. _____
2. _____

Information Sheet 2	Following Procedures for Maintaining a Tidy and Clean Personal Work Area

2.1. Following procedures for maintaining a tidy and clean personal work area

Work areas includes the following offices, rooms, break areas, warehouse, shop floor, racking, aisles, gangways, corridors, toilets, washrooms, vehicles/equipment, loading unloading areas, inside/outside. All of this area must be clear and suitable to perform our health and our environment.

Workplaces may have natural ventilation, mechanical ventilation (fans or extraction units) or air-conditioning. Natural ventilation should consist of permanent openings, including windows and doors, and may be assisted by mechanical ventilation.

Air-conditioning and other ventilation systems should be regularly serviced and maintained in accordance with the manufacturer's instructions. Work processes that release harmful substances should have specific controls to extract these at the source, example local exhaust ventilation. To improve our work environment we applied the following point.

- **Welfare facilities**

You must provide your workers with access to adequate welfare facilities, including:

- ✓ clean drinking water
- ✓ clean toilets
- ✓ Hand washing facilities.

  Based on the location of your workplace, the size and composition of your workforce and the type of work you are doing, you may also need to provide:

- ✓ hygienic dining facilities
- ✓ accessible and secure personal storage
- ✓ Showering facilities.

- **Heat and cold**

The workers must be able to carry out work in extreme heat or cold without a risk to their health and safety, so far as is reasonably practicable. You can maintain a comfortable temperature for your workers with the use of air-conditioning, fans, electric heating and open windows, and by controlling air flow and the source of drafts.

- **Remote or isolated work**

Isolated work means work that is isolated from the assistance of other people - including rescue, medical assistance and emergency services, because of the location, time or nature of the work being done. You must identify and manage the risks associated with any remote or isolated work. Risk means anything that may cause harm to workers or other people at your workplace. This will involve you:

- ✓ identifying any problems (known as hazard identification) - exposure to violence and poor access to emergency assistance are the main hazards that increase the risk of remote or isolated work
- ✓ making an assessment of the risks (determining how serious the problems is)
- ✓ Finding ways to control the risks (deciding what needs to be done about the problem).

- **Emergency plans: -** you must prepare an emergency plan for your workplace that includes:
  - ✓ emergency procedures
  - ✓ testing of the emergency procedures
  - ✓ Information, training and instructions to relevant workers in relation to carrying out the emergency procedures.

2.2. Benefit of good workplace are practice

To improve our work site we achieve the following benefits

- Reduced handling to ease the flow of materials.
- fewer tripping and slipping incidents in clutter-free and spill-free work areas
- decreased fire hazards
- lower worker exposures to hazardous products (e.g. dusts, vapours)
- better control of tools and materials, including inventory and supplies
- more efficient equipment clean-up and maintenance

- better hygienic conditions leading to improved health
- more effective use of space
- reduced property damage by improving preventive maintenance
- less janitorial work
- improved morale
- improved productivity (tools and materials will be easy to find)

2.3. How do plan a good work place area

A workplace health and safety program is a process for managing the prevention of work-related injuries and diseases in the workplace.

2.3.1. Elements of effective do plan a good work place area

- **Maintenance:-**The maintenance of buildings and equipment may be the most important element of good work place area. Maintenance involves keeping buildings, equipment and machinery in safe, efficient working order and in good repair. It includes maintaining sanitary facilities and regularly painting and cleaning walls. Broken tools, damaged equipment's, defective plumbing and broken floor surfaces can make a workplace look neglected; these conditions can cause incidents and affect work practices. So it is important to replace or fix broken or damaged items as quickly as possible. A good maintenance program provides for the inspection, maintenance, upkeep and repair of tools, equipment, machines and processes.

- **Dust and dirt removal: -** Enclosures and exhaust ventilation systems may fail to collect dust, dirt and chips adequately. Vacuum cleaners are suitable for removing light dust and dirt that is not otherwise hazardous. Industrial models have special fittings for cleaning walls, ceilings, ledges, machinery, and other hard-to-reach places where dust and dirt may accumulate.

Special-purpose vacuums are useful for removing hazardous products. For example, vacuum cleaners fitted with HEPA (high efficiency particulate air) filters may be used to capture fine particles of asbestos or fibre glass. Dampening (wetting) floors or using

sweeping compounds before sweeping reduces the amount of airborne dust. The dust and grime that collect in places like shelves, piping, conduits, light fixtures, reflectors, windows, cupboards and lockers may require manual cleaning. Compressed air should not be used for removing dust, dirt or chips from equipment or work surfaces.

- Employee facilities: - Employee facilities need to be adequate, clean and well maintained. Lockers may be necessary for storing employees' personal belongings. Washroom facilities require cleaning once or more each shift.

If workers are using hazardous products, employee facilities should provide special precautions as needed such as showers, washing facilities and change rooms. Some facilities may require two locker rooms with showers between. Using such double locker rooms allows workers to shower off workplace contaminants and reduces the chance of contaminating their "street clothes" by keeping their work clothes separated from the clothing that they wear home. Smoking, eating or drinking in the work area should be prohibited where hazardous products are handled. The eating area should be separate from the work area and should be cleaned properly each shift.

- Surfaces: - Poor site conditions are a leading cause of incidents so cleaning up the site at once is important. Allowing tools, shavings and dust to accumulate can also cause incidents. Trapping chips, shavings and dust before they reach the floor or cleaning them up regularly can prevent their accumulation. Areas that cannot be cleaned continuously, such as entrance ways, should have anti-slip flooring. Keeping floors in good order also means replacing any worn, ripped, or damaged site that poses a tripping hazard.
- Spill control: - The best way to control spills is to stop them before they happen. Regularly cleaning and maintaining machines and equipment is one way. Another is to use drip pans and guards where possible spills might occur. When spills do occur, it is important to clean them up immediately.
- Tools and equipment:-Tool of site is very important, whether in the tool room, on the workshop, in the yard, or on the bench. Tools require suitable fixtures with marked locations to provide an orderly arrangement. Returning tools promptly after use reduces the chance of it being misplaced or lost. Workers should regularly inspect, clean and repair all tools and take any damaged or worn tools out of service.

- Waste disposal:-The regular collection, grading and sorting of scrap contribute to good work place practices. It also makes it possible to separate materials that can be recycled from those going to waste disposal facilities.
- Storage: - Good organization of stored materials is essential for overcoming material storage problems whether on a temporary or permanent basis. There will also be fewer strain injuries if the amount of handling is reduced, especially if less manual material handling is required. The location of the stockpiles should not interfere with work but they should still be readily available when required. Stored materials should allow at least one metre (or about three feet) of clear space under sprinkler heads.

Self-check 2	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet(2 pts each)

1. Which one is an element of effective do plan a good work place area?
   A. Tools and Equipment
   B. Employee Facilities
   C. Dust and Dirt Removal.
   D. Maintenance
   E. All of the above

2. Which one is Benefit of good workplace are practice?
   A. Reduced handling to ease the flow of materials.
   B. Improved morale.
   C. improved productivity (tools and materials will be easy to find)
   D. more effective use of space
   E. .all of the above

3. Which one are Welfare facilities to improve workplace facilities?
   A. Hand washing facilities
   B. clean toilets
   C. clean drinking water
   D. All of the above
   E. None of the above

4. Which one is an elements of prepare an emergency plan for your workplace
   A. Information, training and instructions to relevant workers in relation to carrying out the emergency procedures
   B. testing of the emergency procedures
   C. emergency procedures
   D. all of the above
   E. none of the above

Note: Satisfactory rating - 4 points **Unsatisfactory - below 4 points**

Answer Sheet

Name: _____ Date: _____

Answer

1. _____
2. _____
3. _____
4. _____

Operation sheet 1	Steps of assessing work place risks

Steps

Step 1: Identify hazards, i.e. anything that may cause harm.

Step 2: Decide who may be harmed, and how.

Step 3: Assess the risks and take action.

Step 4: Make a record of the findings.

Step 5: Review the risk assessment.

LAP test	Practical demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given the necessary tools and equipment, perform the following tasks in 6 hrs.

Task 1: Assess work place risks

Instruction Sheet	Learning guide 21: Be Aware of and Report on Safety of Self and Others

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Identifying and reporting situations endanger own safety and other workers
- Reporting incidents and injuries to appropriate people
- Taking part in activities to foster safe working

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Identify and report Situations endanger own safety and other workers
- Report incidents and injuries to appropriate people
- Take part in activities to foster safe working

Learning instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2 and Sheet 3 in page 3, 7, and 14 respectively.
4. Accomplish the “Self-check 1, Self-check 2 and Self-check 3 in page 5, 12and 16 respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1 in page 18.
6. Do the “LAP test” in page19 (if you are ready).

Information Sheet-1	Identifying and Reporting Situations Endanger Own Safety and Other Workers

1.1. Introduction

The main legislation providing for the health and safety of people in the workplace is the Safety, Health and Welfare at Work Act 2005 (as amended). It applies to all employers, employees (including fixed-term and temporary employees) and self-employed people in their workplaces. The Act sets out the rights and obligations of both employers and employees and provides for substantial fines and penalties for breaches of the health and safety legislation.

1.2. Employers and employees duties

In order to prevent workplace injuries and ill-health the employer is required, among other things, to:

- Provide and maintain a safe workplace which uses safe plant and equipment.
- Prevent risks from use of any article or substance and from exposure to physical agents, noise and vibration.
- Prevent any improper conduct or behaviour likely to put the safety, health and welfare of employees at risk.
- Provide instruction and training to employees on health and safety.
- Provide protective clothing and equipment to employees.
- Appointing a competent person as the organisation's Safety Officer.

The duties of employees while at work to improve health and safety of the work area and personal healthy are listed below.

- To take reasonable care to protect the health and safety of themselves and of other people in the workplace
- Not to engage in improper behaviour that will endanger themselves or others
- Not to be under the influence of drink or drugs in the workplace
- To undergo any reasonable medical or other assessment if requested to do so by the employer

- To report any defects in the place of work or equipment which might be a danger to health and safety

1.3. Risk assessment and safety statement

Every employer is required to carry out a risk assessment for the workplace which should identify any hazards present in the workplace, assess the risks arising from such hazards and identify the steps to be taken to deal with any risks. The employer must also prepare a safety statement, which is based on the risk assessment. The statement should also contain the details of people in the workforce who are responsible for safety issues. Employees should be given access to this statement and employers should review it on a regular basis.

1.4. Protective equipment and measures

The employer should tell employees about any risks that require the wearing of protective equipment. The employer should provide protective equipment (such as protective clothing, headgear, footwear, eyewear, gloves) together with training on how to use it, where necessary. An employee is under a duty to take reasonable care for their own safety and to use any protective equipment supplied. The protective equipment should be provided free of charge to employees if it is intended for use at the workplace only. Usually, employees should be provided with their own personal equipment.

1.5. Reporting accidents

All accidents in the workplace should be reported to the employer, who should record the details of the incident. Reporting the accident will help to safeguard social welfare and other rights that may arise as a result of an occupational accident. An employer is obliged to report any accident that results in an employee missing 3 consecutive days at work (not including the day of the accident) to the Health and Safety Authority.

Self-check 1	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet (2 pts each)

1. To prevent workplace injuries and ill-health which one is the duties and responsibility of the employer?
   A. Provide and maintain a safe workplace which uses safe plant and equipment
   B. Provide instruction and training to employees on health and safety
   C. Provide protective clothing and equipment to employees
   D. Appointing a competent person as the organisation's Safety Officer
   E. All of the above
2. To prevent workplace injuries and ill-health which one is the duties and responsibility of the employer?
   A. To take reasonable care to protect the health and safety of themselves and of other people in the workplace
   B. To undergo any reasonable medical or other assessment if requested to do so by the employer
   C. Not to be under the influence of drink or drugs in the workplace
   D. Not to engage in improper behavior that will endanger themselves or others
   E. All of the above.
   F. None of the above.

Note: Satisfactory rating – 2 points **Unsatisfactory - below 2 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Answer sheet

1._____

2._____

Information Sheet 2	Reporting Incidents and Injuries to Appropriate People

2.1. Definition important terms

- **Incidents: -**are unexpected events that may result in property damage, but does not result in an injury or illness. Incidents are also called, "near misses," or "near hits."
- **Accidents**: - are defined as an unexpected event that may result in property damage, and does result in an injury or illness to an employee.
- **Injury: -** is the final output of both events.

The difference between Incidents and accidents are accidents result in illness or injury to a person. Basically, by definition, all accidents are incidents, but not all incidents are accidents. There are two types of events that fall under the definition of an incident for the purposes of reporting guidelines:

The first is an event that resulted in an injury. Both student and employee injuries must be reported. Minor injuries are equally as important to report as major injuries are. Both of the following cases and many others like them, are required to be reported.

- **Investigation: -** is the systematic evaluation of the facts and determination of causes of an incident for the purpose of eliminating or reducing the risk of recurrence.

Figure 18: Flow of incident management cycle

Table 2: Incident response

No.	Activity	Responsible Party	Time after Incident
1	Provide the Responsible Supervisor with basic information and facts regarding the incident.	First Reporter	Immediately
2	Make the Site safe and initiate emergency response in line with local requirements in cooperation with Emergency Coordination Team (if required). Obtain prompt and appropriate medical care for personnel (if required).	First Reporter & Responsible Supervisor	Immediately

2.2. Common incident cause

- An incident during a contractor's travel to point of mobilization.
- Incidents occurring during a person's commute to and from work in their private vehicle.
- The employee is present in the work environment as a member of the general public.
- The symptoms of the illness that surface at work are solely due to non-work-related event or exposure.
- The injury or illness results solely from voluntary participation in a wellness program, medical, fitness or recreational activity.
- The injury or illness results from eating, drinking or preparing food or drink for personal consumption (unless caused by contamination by the working environment).
- The injury or illness results from participation in a personal task outside assigned working hours (unless the injury was caused by a hazard or event on company or (sub) contractor premises).
- The injury or illness results from personal hygiene related activities, self-medication for non-work related condition or are intentionally self-inflicted.
- The illness is a common cold or flu.

2.2.1. Reporting incidents and injuries to Supervisors

Any reports Include in the initial notification report the exact description of what happened, when it happened, the consequences, who was involved (positions not names) and what immediate actions were taken following the incident.

A supervisor is a person who instructs, directs and controls workers/staff in the performance of their duties. If an injury occurs to any worker (faculty, staff, paid student or practicum student), the supervisor must ensure that:

- The worker receives attention for any injuries;
- The worker reports the accident/incident (Person involved in Incident Report). If the worker has not been able to start the process, the supervisor should initiate the CAIRS supervisor report immediately.
- The injured worker's report is reviewed and immediately conducts an accident/incident investigation.
- Corrective actions are undertaken to remove or mitigate the future risk for injury.

To report the accident/incident, the supervisor must undertake the following steps:

- If applicable, ensure that your upper management has been notified;
- Ensure that the injured/ill workers have filled out the accident incident report at UBC CAIRS (Person Involved in Incident Report).
- If the worker has not been able to start the process, the supervisor must initiate the UBC CAIRS supervisor report immediately.
- Once completed, the supervisor will receive an email notification with a link to complete the accident/incident investigation and required employment information.

2.2.2. Reporting incidents and injuries to Team leaders

All incidents occurring during working time or on company and (sub) contractor property shall be investigated and treated as work related unless determined otherwise. All third party motor vehicle injuries are counted as work related only where the investigation reveals that failures of Company or contractor management controls, that should have been in place, directly contributed to the incident causation.

The Investigation Team Leader shall organize regular coordination meetings with the Investigation Team Members to provide oversight of the investigation process during this meeting time we collect the following issues.

- Update on current status of investigation;
- Maintain clear understanding of the required deliverables and key milestones e.g. start, interim report and final report;
- Validate all findings;
- Review final results of the incident investigation.

2.2.3. Reporting incidents and injuries to other persons authorised or nominated by the organisation

The Incident Owner makes the initial classification of the incident using the Risk Assessment Matrix (RAM). For incidents involving harm to people, there are two questions to consider:

- Did the Incident or exposure cause injury or illness and is therefore classified as a medical case?
- Is the case work related?
  - ✓ Did the Incident or exposure occur in the work environment?
  - ✓ Did the work environment cause or contribute to the injury or illness?

Injuries and illnesses resulting from events or exposures occurring in the work environment are presumed to be work related. A case is considered work-related if an event or exposure in the work environment either caused or contributed to the condition.

2.3. Investigation report

Every investigation shall include identification of immediate and underlying (root) causes of incident and address SMART actions to root causes for prevention of similar incidents in future. The investigation report should include:

- Date and time of the event
- Date the investigation began
- List of investigation team members and investigation team lead
- Description of the event (who, what, where, when, how, and why)
- Findings (facts) determined during the investigation

- Consequences of the event
- Causes of the event (including list of failed barriers)
- Recommendations for corrective action to help prevent recurrence
- Ensure action items address all immediate causes and main underlying causes.

Self-check 2	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet (2 pts each)

1. Which one is Common incident cause
   A. An incident during a contractor's travel to point of mobilization.
   B. Incidents occurring during a person's commute to and from work in their private vehicle.
   C. The employee is present in the work environment as a member of the general public.
   D. The symptoms of the illness that surface at work are solely due to non-work-related event or exposure.
   E. All of the above
   F. None of the above

2. ----------is the systematic evaluation of the facts and determination of causes of an incident for the purpose of eliminating or reducing the risk of recurrence?
   A. Incidents
   B. Accidents:
   C. Injury
   D. Investigation
   E. None of the above

3. ----------Is unexpected event that may result in property damage, but does not result in an injury or illness?
   A. Incidents
   B. Accidents:
   C. Injury
   D. Investigation
   E. None of the above

4. Which one is not a component of incident management cycle?

A. Incident response.
B. notification
C. investigation and analysis
D. Reporting
E. Corrective action management
F. None of the above

5. The investigation report should include:
   A. Causes of the event (including list of failed barriers)
   B. Consequences of the event
   C. List of investigation team members and investigation team lead
   D. Date the investigation began
   E. Date and time of the event
   F. All of the above

Note: Satisfactory rating –5 and above points Unsatisfactory - below 5points

Answer Sheet

Name: _____ Date: _____

1. _____
2. _____
3. _____
4. _____
5. _____

Information Sheet-3	Taking Part in Activities to Foster Safe Working

3.1. Taking part in activities to foster safe working

Safe work practices are generally written methods outlining how to perform a task with minimum risk to people, equipment, materials, environment, and processes. Safe job procedures are a series of specific steps that guide a worker through a task from start to finish in a chronological order. Safe job procedures are designed to reduce the risk by minimizing potential exposure.

Safe work practices should be developed as a result of completing a Hazard Assessment and should closely reflect the activities most common in the company's type or sector of construction. Safe job procedures are usually developed by management and workers as a result of a Hazard Assessment, accident investigation and/or as a supplement to a safe work practice. All safe work practices should be kept in a location central to the work being performed and readily available to the workforce.

3.1.1. Common safe working activities to minimum risk to people, equipment, materials, environment, and processes

- **Tidy up construction sites**
  - ✓ Keep passages clear all the time.
  - ✓ Sort out materials and pile them up safely.
  - ✓ The stacks should not be too high.
  - ✓ Be ware of floor openings and ensure that they are fenced or covered.
  - ✓ Remove refuse as soon as possible.
  - ✓ Provide sufficient lighting.
  - ✓ Familiarizewiththelocationandtheoperationoffire-fightingequipment.
- **Safety measures**
  - ✓ Before you operate a machine, ensure that the dangerous part of the machine has been installed with a guard.
  - ✓ Avoid going to any area within sufficient lighting as there may be some dangerous places which have not been provided with fencing.

- ✓ Keep vigilant all the time and watch out for moving cranes, hooks or other lifting equipment.
- ✓ Before you use any electrical installation or tool, check the condition of its electric cables.
- ✓ Avoid dragging electric cables on the ground or allowing the cables to come in to contact with water.
- ✓ Use and handle chemicals with care.

- **Personal safety**
  - ✓ Wear protective equipment.
  - ✓ Do not drink or take drugs while working.
  - ✓ Pay attention to personal hygiene.
  - ✓ Do not play in the workplace.
  - ✓ Report to your supervisor immediately if you notice any unsafe condition.
- **Emergency response to accidents**
  - ✓ You should have a good understanding of your working environment and the instructions given by your supervisor. When evacuation is required in an emergency, you should keep calm and find out:
  - ✓ What dangerous situation the alarm refers to.
  - ✓ The routes fore evacuation
  - ✓ The safe place that you should go to as designated by the company.

Self-check 3	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet

4. _____are a series of specific steps that guide a worker through a task from start to finish in a chronological order.
   A. Safe job procedures
   B. Safety measures
   C. Personal Safety
   D. Tidy up construction sites
   E. All of the above

5. One of the following is tidy up construction sites component?
   A. Keep passages clear all the time
   B. Sort out materials and pile them up safely.
   C. The stacks should not be too high.
   D. Remove refuse as soon as possible.
   E. All of the above
   F. None of the above

6. One of the following is Safety measures construction sites component?
   A. Avoid dragging electric cable s on the ground or allowing the cables to come in to contact with water.
   B. Before you use any electrical installation or tool, check the condition of its electric cables.
   C. Keep vigilant all the time and watch out for moving cranes, hooks or other lifting equipment.
   D. Before you operate a machine, ensure that the dangerous part of the machine has been installed with a guard.

4. One of the following is Personal Safetyconstruction sites component?
   A. Do not play in the workplace.
   B. Pay attention to personal hygiene.

C. Do not drink or take drugs while working.

D. Wear protective equipment

E. All of the above

Note: **Satisfactory rating –4 points** **Unsatisfactory – below 4 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer sheet

Name: _____ Date: _____

1. _____
2. _____
3. _____
4. _____

Operation Sheet 1	Procedures of Reporting Incidents and Injuries to Supervisor

Perform reporting incidents and injuries to supervisors

Step 1: Identify incidents and injuries during day to day activity

Step 2: Identify the level of incidents and injuries

Step 3: Collect and records the cause of incidents and injuries

Step 4: Report the incidents and injuries to supervisor

Step 5: Take the hazard can be remedied immediately

Step 6: Take appropriate action in consultation with the Health and Safety Representative

LAP test	Practical demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given the necessary tools and equipment, perform the following tasks in 6 hrs

Task 1: Report incidents and injuries at your work place to your supervisor.

Instruction sheet	Learning guide 22: Follow Emergency Procedures

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Responding ranges of emergency.
- Following emergency procedures.
- Getting help from team members and supervisors.

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Respond Ranges of emergency.
- Follow emergency procedures
- Get help from team members and supervisors

Learning instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2 and Sheet 3 in page 3, 11 and 20 respectively.
4. Accomplish the “Self-check 1, Self-check 2 and Self-check 3 in page 9, 18 and 27 respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1and operation sheet 2 in page 29.
6. Do the “LAP test” in page30 (if you are ready).

Information Sheet 1	Responding Ranges of Emergency

1.1 Introduction

Emergency response is the phase of the disaster-management cycle that often attracts the most attention and resources. During this phase, environmental health services may have a great impact on the health and well-being of affected communities. Emergency response is sometimes a cyclical process, involving repeated assessment, planning, action and review, to respond appropriately to needs and capacities as they evolve. It starts with an initial assessment and may be triggered spontaneously by the disaster event, or officials may authorize the mobilization of people and resources. Rapid and effective mobilization is facilitated by proper disaster preparedness.

1.2 Important terms

- **Response: -** Response encompasses the decisions and actions taken to deal with the immediate effects of an emergency. It is the decisions and actions taken in accordance with the strategic, tactical and operational objectives defined by emergency responders. At a high level these will be to protect life, contain and mitigate the impacts of the emergency and create the conditions for a return to normality.
- **Recovery: -**Recovery is defined as the process of rebuilding, restoring and rehabilitating the community following an emergency. Recovery may take months or even years to complete, as it seeks to support affected communities in the reconstruction of the physical infrastructure and restoration of emotional, social and physical well-being. The process of rebuilding, restoring and rehabilitating the community following an emergency or disaster, continues until the disruption has been rectified, demands on services have been returned to normal levels, and the needs of those affected have been met. Although distinct from the response phase, recovery should be an integral part of the response from the very beginning, as actions taken during the response phase can influence the longer-term outcomes for a community.

- **Emergency: -** an event or situation which threatens serious damage to human welfare, the environment and serious damage to the security in a place. Additionally, to constitute an emergency, an incident or situation must also pose a considerable test for an organization's ability to perform its functions.

1.3 Common objectives for responders

- saving and protecting human life
- relieving suffering
- containing the emergency limiting its escalation or spread and mitigating its impacts;
- providing the public and businesses with warnings, advice and information;
- protecting the health and safety of responding personnel;
- safeguarding the environment; as far as reasonably practicable, protecting property;
- maintaining or restoring critical activities; maintaining normal services at an appropriate level; promoting and facilitating self-help in affected communities;
- Facilitating investigations and inquiries (e.g. by preserving the scene and effective records management);
- Facilitating the recovery of the community (including the humanitarian, economic, infrastructure and environmental impacts); evaluating the response and recovery effort;
- Identifying and taking action to implement lessons identified.

1.4 Responding ranges of emergency

1.4.1 Accidents, including those that do not result in injury

Accident prevention has been traditionally based on learning from accidents and near accidents (near misses). By investigating every incident, we learn about causes and can take actions towards mitigating or removing the causes. The problem is that we have not been able to develop, in the absence of sufficiently good theories, investigation methods which would bring up all the relevant factors for prevention. An investigation may give a fairly good picture about the causes. However, this picture is usually relevant only for the

specific case investigated. There may be conditions and factors which contributed to the accident whose connections the investigators do not recognize or understand. Generalizing from one accident to other situations bears a degree of risk.]

1.4.2 Injuries such as cuts, scalds and burns

Burns and scalds are damage to the skin caused by heat. Both are treated in the same way. A burn is caused by dry heat– by an iron or fire, for example.Ascald is caused by something wet, such as hot water or steam.

1.4.3 Health conditions such as fainting, asthma attacks and allergic reactions

Status asthmaticsis respiratory failure that comes with theworst form ofacutesevere asthma, or an asthma attack. If an attack comes on quickly and it doesn't respond to regular treatment, it can lead to status asthmatics,

- If it happens, you may have to go to the hospital to get it treated.
- If you have a bad asthma attack and your rescueinhaleror yournebulizerdoesn't help, you need medical care right away. If you have asteroidmedicine at home (such asprednisone), you can take a dose of it on your way to the emergency room.
- Many people haveasthma. And there are many treatments to manage it. It's important to follow theasthma action planthat you made with your doctor, avoid your triggers, take your medicine, and keep up with your doctor appointments.
- Still,asthma attackscan happen, and some severe ones are an emergency.
- With any asthma attack, never wait to see if it goes away on its own.It could worsen so much that you need to go to a hospital.

1.4.4 Spills and leakages of harmful gas and liquids

For simple spills, emergency responders do not need to be notified. Most importantly, before cleaning up a simple spill, be sure that you can do so safely. You must have the right personal protective equipment, including, at a minimum, appropriate eye protection, protective gloves, and a lab coat. Additional protective equipment may be required for spills that present special hazards (such as corrosive or reactive spills or spills that have a splash potential).

1.4.5 Structural failures and breakages

Damage is a physical discontinuity in the object or material. It can be introduced either during manufacturing or service stage. The damage can impair usefulness or normal functioning of the object or material. The damage can beof micro, meso or / and macro scale. Damage characterizes the state of the object or material. Quantitative evaluation of damage location, shape, size, evolution and effect can be performedbased on experimental, analytical and numerical techniques.

Failure is the state or condition of not meeting a desirable or intended objective of the object or material.Product or material failure ranges from failure to sell the product or material to its fracture. Failurecharacterizes functioning or lack of functioning of the product or material to its desirable or intended requirement.

A fracture is the separation of an object or material into two or more pieces under the action of applied / induced stress. Fracture strength or breaking strength is the stress when a specimenfractures.

1.4.6 Fire

Fires can start suddenly and spread quickly, damaging your home and furniture and putting lives in danger. Weattend a wide range of incidents, including fires, road traffic accidents and other emergencies. When we are called to an incident, our response needs to be the right one. This means having the right arrangements to:

- Receive and deal with emergency calls speedily and accurately.
- Send the appropriate number and types of fire engine, with the right number of trained personnel in each crew so they can get to work on arrival.
- Get to incidents as quickly as possible
- Get other specialist resources to incidents as quickly as they are needed
- Work quickly and safely to resolve the incident
- Work with blue light partners (Police and Ambulance Service) to make sure that the Brigade provides an integrated and joined-up response.

1.4.7 Flooding

Floods according to three criteria: the maximum height of the water above normal levels during the flood, the time period required for the flood waters to rise and fall, and the size and frequency with which similar floods are likely to occur.

Floods occur when a normally drier land area is temporarily submerged in water overflowing from rivers, dams (barrier to contain the flow of water), runoff, or tides. Runoff is water that accumulates and flows after heavy rainstorms or snowmelts. Floods occur in all fifty states and around the world. Floods can be caused by several factors: heavy rainfall over a short period, moderate rainfall over a long period, melting snow, hurricane storm surge (a dome of water that builds up as a hurricane moves over water), ice or debris jams on rivers, and dam failures. loods can cause great harm to people and property. Floods are the deadliest form of natural disasters, killing more Americans every year than tornados, lightning, earthquakes, and forest fires combined. Due to the potential harm, government agencies work to prevent and predict floods. A Flood Emergency Plan (FEP) outlines the roles and responsibilities of all parties to be involved, actions to be taken, coordination arrangements and communication channels to be used prior to, during and after a flood event

- Building developments in floodplains, where they are vulnerable to flood hazards;
- Built development in catchments and other changes in land use, that increase the rate and volume of run off in a catchment;
- Sediment movement changing river cross-sections and affecting flood levels
- Lack of maintenance of flood defence systems, watercourses, culverts (including flood storage areas around them) and road gullies, particularly where this leads to channel blockage
- Canalisation, modification and diversion of rivers and watercourses, which increase the rate of flow and decrease the time taken for water to travel within a catchment
- The building of structures e.g. (embankments), which restrict flows over historical flood plains and thereby create additional flood risks both upstream and downstream.
- Land management practices that increase blockages of hydraulic structures.

1.4.8 Power failures or shorts

Power failures can be occurred by the following ways

- **Power failure:**extended loss of power due to:
  - ✓ Severe weather
  - ✓ Network failure (human mistake; accidents to line apparatus)
  - ✓ **Power interruption:short-term loss of power (milliseconds to a few seconds), due to:**
  - ✓ Line faults cleared by automatic recloses (tree limbs or animals, etc.)
  - ✓ Open-transition switching by the utility or energy customer
- **Long term power disturbances:**(A disturbance is some measurable change in the power supplied which does not, in general, demand immediate correction.)
  - ✓ Harmonic waveform distortion = distortion of supply voltage waveform from a true sine wave, generally repetitive from cycle to cycle. (May be due to transformer connection or some non-linear load in the vicinity.)
  - ✓ Out-of-Range voltage disturbance ("voltage regulation"). This is a persistent voltage level at the service entrance which is too high or too low, as defined by the Service Standards in effect.

Self-check 1	Written test

Directions: all the questions listed below. Choose the best answer and write your answer in the sheet. (2 pts each)

1. ---------- is encompasses the decisions and actions taken to deal with the immediate effects of an emergency?
   A. Emergency
   B. Recovery
   C. Response
   D. All of the above
   E. None of the above

2. What are the common objectives for responders?
   A. saving and protecting human life
   B. relieving suffering
   C. providing the public and businesses with warnings, advice and information
   D. protecting the health and safety of responding personnel;
   E. Identifying and taking action to implement lessons identified
   F. All of the above.

3. ---------- is an event or situation which threatens serious damage to human welfare, the environment and serious damage to the security in a place?
   A. Emergency
   B. Recovery
   C. Response
   D. All of the above
   E. None of the above

4. Which one of the following is contributing factors to flooding impacts
   A. Land management practices that increase blockages of hydraulic structures
   B. Sediment movement changing river cross-sections and affecting flood levels

C. Built development in catchments and other changes in land use, that increase the rate and volume of runoff in a catchment;

D. Building developments in floodplains, where they are vulnerable to flood hazards;

E. All of the above

Note: Satisfactory rating –4 points **Unsatisfactory - below 4 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

1._____

2. _____

3. _____

4. _____

Information Sheet 2	Following Emergency Procedures

2.1. Introduction

Emergency isa situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is caused by the forces of nature, a disease or other health risk, an accident or an act whether intentional or otherwise. Anemergency procedureis a plan of actions to be conducted in a certain order or manner, in response to a specific class of reasonably foreseeableemergency, a situation that poses an immediate risk tohealth,life,property, or theenvironment. The following lists are shown the case of emergency and steps to prevent this emergency.

2.2. Accidents, including those that do not result in injury

Each and every day, Canadians head to work with the expectations that they will be able to complete their daily tasks free of injury or any other health risks. Certainly, we all deserve to work in safe and clean environments. Most businesses take measures to ensure the safety of their employees, accidents are bound to happen. However, there are ways to ensure that such accidents are minimized and unable to present serious ill effects. Naturally, some jobs present more risks than others. Construction workers, for example, often have to work with heavy equipment and at high elevations. Clearly, protective gear must be worn and extra precautions need to be followed. Here are six ways prevent accidents in the workplace.

- **Always be alert:** - There's a reason why many workers insist upon that morning coffee. Being awake and alert isn't just important in order to complete tasks adequately, but it also helps to keep both you and your co-workers out of harm's way. According to Julian Hall on Character-Training.com, "most of the people who become involved with accidents at work are those who feel sleepy while working.
- **Don't rush your work: -** In many workplaces, time is of the essence. Employees are given deadlines that they must meet, so there is often a sense of urgency when

it comes to completing certain tasks. It's important, however, to take the appropriate amount of time to perform your duties safely.

- **Wear required safety gear: -** Many jobs require uniforms. But the jobs that require the wearing of safety equipment are the ones where dress codes are the most important.
- **Follow instructions to a tee: -** Sometimes, workers get complacent. It's easy to fall into the trap of assuming that you're an expert at your job, so you don't need to follow every last instruction. However, paying attention to detail can help you to avoid making mistakes that can lead to injury.
- **Pay attention to and follow emergency drills: -** Workers also tend to take safety drills for granted. If they're not "the real thing", they often go through the motions carelessly. However, participation in such drills couldn't be more important. As Hall points out, these emergency drills are conducted for the purpose of teaching employees what to do in the event of an emergency and so that they can avoid accidents.
- **Insist upon proper training: -** This is especially important if you plan on taking on a job that may present a number of risks. Knowing exactly what you're in for and how to react during emergency situations is imperative for your safety.

2.2.1. Injuries such as cuts, scalds and burns

Follow these steps to keep cuts clean and prevent infections and scars.

- **Remove any dirt or debris: -** Use a pair of tweezers cleaned with alcohol to gently pick out any dirt, gravel, glass, or other material in the cut.
- **Wash your hands: -** First, wash up with soap and water so you don't get bacteria into the cut and cause an infection. If you're on the go, use hand sanitizer.
- **Stop the bleeding: -** Put pressure on the cut with a gauze pad or clean cloth. Keep the pressure on for a few minutes.
- **Clean the wound: -** Once you've stopped the bleeding, rinse the cut under cool running water or use a saline wound wash. Clean the area around the wound with soap and a wet washcloth. Don't get soap in the cut, because it can irritate the skin. And don't use hydrogen peroxide or iodine, which could irritate the cut.
- **Treating burns and scalds:-**To treat a burn, follow thefirst aid advice below:

✓ immediately get the person away from the heat source to stop the burning

- ✓ cool the burn with cool or lukewarm running water for20 minutes– don't use ice, iced water, or any creams or greasy substances such as butter
- ✓ remove any clothing or jewellery that's near the burnt area of skin, including babies' nappies -but don'tmove anything that's stuck to the skin
- ✓ make sure the person keeps warm – byusing a blanket,for example,but take care not to rub it against the burnt area
- ✓ cover the burn by placing a layer of cling film over it– a clean plastic bag could also be used for burns on your hand
- ✓ use pain killers such asparacetamol oribuprofento treatanypain
- ✓ If the face or eyes are burnt, sit up as much as possible, rather than lying down - this helps to reduce swelling.

- **Preventing burns and scalds:** - Many severe burns and scalds affect babies and young children. Examples of things you can do to help reduce the likelihood of your child having a serious accident at home include:
  - ✓ Keeping your child out of the kitchen whenever possible
  - ✓ Testing the temperature of bath water using your elbow before you put your baby or toddler in the bath
  - ✓ Keeping matches, lighters and lit candles out of young children's sight and reach
  - ✓ Keeping hot drinks well away from young children

2.2.2. Health conditions such as fainting, asthma attacks and allergic reactions

You may not be able to prevent all severe asthma attacks. But you can take steps to make them less likely:

- Take your asthma medication as often as your doctor recommends.
- Use a peak flow meter several times a day. These devices help to check on how well your lungs are working. Start treatment immediately, according to your asthma action plan, if you notice a lower reading, even if you feel fine.
- Keep up with your doctor appointments to find out how well your lungs are doing and to make sure your medicines are working well.

2.2.3. Spills and leakages of harmful gas and liquids

The following steps should be taken during spill clean-up.

- **Prevent the spread of dusts and vapors':-** If the substance is volatile or can produce airborne dusts, close the laboratory door and increase ventilation (through fume hoods, for example) to prevent the spread of dusts and vapour's to other areas.
- **Neutralize acids and bases, if possible:**-Spills of most liquid acids or bases, once neutralized, can be mopped up and rinsed down the drain (to the sanitary sewer). However, be careful because the neutralization process is often vigorous, causing splashes and yielding large amounts of heat. Neutralize acids with soda ash or sodium bicarbonate. Bases can be neutralized with citric acid or ascorbic acid. Use pH paper to determine when acid or base spills have been neutralized.
- **Control the spread of the liquid:-**Contain the spill. Make a dike around the outside edges of the spill. Use absorbent materials such as vermiculite, cat litter, or spill pillows.
- **Absorb the liquid: -**Add absorbents to the spill, working from the spill's outer edges toward the centre.
- **Collect and contain the clean-up residues:-**The neutralized spill residue or the absorbent should be scooped, swept, or otherwise placed into a plastic bucket or other container. For dry powders or liquids absorbed to dryness, double bag the residue using plastic bags.
- **Dispose of the wastes: -**Keep clean-up materials separate from normal trash. Contact your environmental health and safety officer for guidance in packaging and labeling clean up residues.

- **Decontaminate the area and affected equipment:-**Ventilating the spill area may be necessary. Open windows or use a fan unless the area is under negative pressure.

2.2.4. Structural failures and breakages

If power fails in your area, follow the instructions below.

- Notify the Building Security. The power failure may be localized to your floor, so do not assume the building already knows of the failure.
- If your phone system is not operating due to the power outage, try to use a cellular phone to call the office.
- Do not try to take the stairs or the elevator to get to the Building Security.
- Open draperies and raise blinds to let in outside light. If there is adequate lighting from windows, continue performing assignments as well as possible.
- If you are instructed to evacuate, lock all areas.
- Do not congregate in lobby areas or in the street.
- If you are trapped in an elevator during a power failure, wait for assistance. Your elevators will cease operation, but will not fall. Do not force open the doors or try to escape through the roof hatch. Do not panic.
- The Building Security will attempt to advise you regarding the length and cause of the power failure as soon as possible.

2.2.5. Fire

They are caused in a variety of ways, but there are a few simple hints you can follow to prevent them starting.

- Keep all fires and heaters well-guarded, especially open fires. For fitted or portable heaters with a built in guard, give extra protection by adding a surrounding guard particularly if you have young children or older people in the home. For children, use a nursery guard with side clips that fit into fixed wall brackets
- Keep portable heaters and candles away from furniture and curtains. Position safely where they cannot be knocked over
- Don't dry or air clothes over or near the fire, or the cooker
- Do not smoke in bed

- Many fires start in the kitchen, especially fat fires. Never leave a pan unattended when deep fat frying and watch for overheating. For safer frying use oven chips or a thermostatically controlled deep fat fryer
- If there are children around, keep matches and lighters well out of reach
- Fit approved smoke detectors on each floor. Choose a smoke alarm that is mains operated or one with a long life (ten year) battery
- Plan your escape route. Remember Getout, stayoutand call the fire brigadeout.

2.2.6. Flooding

Once water begins filling up the streets and buildings, employees will be strongly urged to stay in the building (of course no one will force you to stay). If you choose to stay, follow the instructions below.

- If time allows, remove as much equipment as possible from your floor and place it on your desktop or a high shelf. Unplug any electrical equipment as well.
- Proceed to the designated floor (there is open space there). Close all doors but do not lock them. Do not use the elevators.
- Wait out the flood. Do not use any electrical equipment. Do not light fires or burn anything. Do not use the telephone unless it is an emergency.
- If you are trapped on a floor with water entering, place a piece of clothing or other signal outside a window, alerting authorities of your situation.
- Avoid stepping in the water. Downed power lines in nearby water could cause serious injury or death.

Some methods offloodcontrol have been practiced since ancient times. These methods include

- ✓ planting vegetation to retain extra water,
- ✓ terracinghillsides to slow flow downhill, and
- ✓ The construction of floodways (man-made channels to divert floodwater). Other techniques include the construction of levees, dikes, dams, reservoirs or retention ponds to hold extra water during times of flooding.

2.2.7. Power failures or shorts

In the event the building sustains a power failure, temporary emergency lighting is available on the floors and in the stairwells. To control these problem follow the following activates.

- The Management Office will contact the electric company to attempt to find out the cause of the outage and the anticipated duration of the outage.
- Tenant Floor Leaders and the Emergency Team meet in the elevator lobby to determine if people are trapped in the elevators. If people are trapped, the Tenant Floor Leader should ascertain to the best of their knowledge if any injuries occurred. Notify Security or the Management Office immediately of the entrapment, location and status of the trapped individuals.
- The Elevator Monitor is requested to stay in contact with the trapped individuals until assistance arrives. Reassure them that assistance is on the way.
- If the power is not restored after 15 minutes, the Management Office will provide information and direction to the tenants through the building audio address system.
- If the electric company does not know how long the power will be out, or if power will be out for longer than one hour, the building may need to be totally evacuated.
- If total evacuation is necessary, it is conducted according to the Fire procedure. (For greater detail on the Fire procedure, refer to the Fire section of this guide).

Self-check 2	Written test

Instructions: Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet (2 pts each).

1. Which one is the ways prevent accidents in the workplace?
   A. Follow instructions to a tee
   B. Wear required safety gear
   C. Don't rush your work
   D. Always be alert
   E. All of the above
   F. None of the above

2. One of the following is floodcontrol mechanisms?
   A. planting vegetation to retain extra water
   B. terracinghillsides to slow flow downhill
   C. The construction of floodways
   D. All of the above
   E. None of the above

3. Which one are the instructions of power fails in your area?
   A. Notify the Building Security.
   B. If your phone system is not operating due to the power outage, try to use a cellular phone to call the office.
   C. Do not try to take the stairs or the elevator to get to the Building Security.

4. Which one is theCollect and contains the clean-up residues?
   A. Absorb the liquid
   B. Control the spread of the liquid
   C. Neutralize acids and bases, if possible
   D. Prevent the spread of dusts and vapour's

Note: Satisfactory rating –4 and above points **Unsatisfactory - below 4 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Answers

1._____

2. _____

3. _____

4. _____

Information sheet-3	Getting Help from Team Members and Supervisors

3.1. Introduction

In fact, being a great leader is more an art than it is a science, and anyone can become a better, more effective and more successful leader— you just need time, practice and perseverance. Working in a team without any standards is difficult for everybody. It's difficult for the leader, because the team members will produce variable outcomes. It's difficult for team members because they don't have direction.

3.1.1. Problem solving meetings

The key objective for problem solving meetings is to find the most optimal solution or reach the best compromise that can resolve an issue facing the group or organization. In order to do this the group first has to identify possible solutions, and then evaluates these based on relevant requirements and criteria. The participant roles found in a problem solving meeting tend to vary more than most other meeting types. This is because problem solving meetings exist across such a large variety of contexts and group.

- **Key Roles in Problem Solving Meetings**
  - ✓ **Meeting leader: -** The leader should be able to provide the team with a general overview of the situation. They should then lead the team through the guided process.
  - ✓ **Meeting participants: -** All other attendees of the meeting should be people who fall under two categories. The first is of participants who may have been involved in the events leading up to the problem. This group is not there to be blamed or criticized, but rather to provide information about how the situation was reached. In addition, this group has unique insights on how potential solutions may or may not fit with the current approach.

3.1.2. Suggestion schemes

Encourage employees to submit useful ideas, and your company will thrive.

Here are six essential steps to implement a staff suggestion scheme at your organization:

- **Obtain senior management buy-in**

Any new program starts with a persuasive business case. Your business case for a staff suggestionscheme should outline business benefits and investments required.The most commonbusiness benefits of a staff suggestion schemeare listed below:

- ✓ Improve staff morale
- ✓ Increase job satisfaction
- ✓ Create a feeling of ownership and engagement
- ✓ Build team spirit
- ✓ Reduce costs and increase profitability
- ✓ Increase revenue
- ✓ Improve customer satisfaction

- **Develop an internal promotion Plan**

An internal promotion plan is essential to your scheme's success:

- ✓ Give your suggestion scheme a name
- ✓ Develop a launch plan to create initial buzz and encourage staff to submit ideas
- ✓ Create an ongoing training plan to ensure staff understand the type of ideas you're looking for
- ✓ Consider how to maintain momentum and celebrate successes
- ✓ Agree on how to respond to accepted and rejected ideas
- ✓ Consider communication channels from emails to "old-fashioned" paper newsletters

- **Set Up a cross-functional suggestion review team: -**At most organizations, the review of ideas is best done as an interdisciplinary effort. All key departments need to be represented to ensure ideas can be properly evaluated and implemented**.** Make sure each committee member understands the time commitment required to review and evaluate ideas.

- **Agree on a suggestion reward scheme: -** A hand-written thank-you letter from a manager or a mention on your intranet providessufficient reward for good ideas.
- **Set out Suggestion Guidelines: -** A staff suggestion scheme can easily end up as a channel for employees to vent their frustrations orsuggest merely self-serving benefits.
- **Select appropriate software: -** Staff suggestion software can help streamline submission, evaluation, and implementation of ideas. Itcan also support your internal promotion plan and keep employees (who have submitted ideas) updatedon the process. Staff suggestion software ranges from free, simple software suitable for small organizations tofeature-packed software for large enterprises.

3.1.3. Regular communication and Information sessions with team leaders

Most of us know intuitively that good communication is important in the workplace. After all, great communication removes obstacles that detract from efficiency and collaboration. Managers lay a critical foundation for effective communication on their team. In fact, Gallup's research shows that consistent manager-employee communication is closely connected to higher employee engagement. Managers set the tone by modeling good communication for their direct reports, and create the structure and processes that facilitate effective communication within in their team. We define good communication as being effective both in the content of your communication and the coverage of your communication.

The content of your communication is both *what* you communicate and *how* you frame it. As a manager, you should be communicating with your direct reports about both short-term priorities and long-term development on professional and personal levels. You also need to present this information in such a way that your direct report understands and can easily take action.

Coverage of your communication is both *who* you're communicating with and when,or on what cadence. A manager should have frequent and consistent communication with all of their direct reports. Coverage can manifest itself in one-on-one meetings, team-wide settings, or more informal interactions.

The following tips will help managers improve communication to and between their team members by giving those ways to improve both the content and the coverage of their communication.

- **Provide role clarity: -**One of the most effective structural ways to improve the content of communication on your team is to invest in role clarity. It helps everyone on the team know from the beginning which content is most relevant to discuss with different team members. It's important to remember that role clarity is not the same as a job description. A job description describes the "job" in a vacuum; it doesn't provide any insight into the role this person is taking within a team. It's difficult to have effective communication on your team when these fundamentals are not fully defined. One of the simplest ways managers can promote role clarity is by explaining to each employee what metrics will be used to define success in their role. When individual contributors are clear on what is expected of them and those around them, organizations reduce friction and can hold team members accountable.
- **Use data whenever possible: -** Once your team's roles are clearly defined, then use data- and evidence-driven conversations to create a culture of accountability. When providing feedback (whether positive or constructive), managers using concrete examples of their direct report's performance will have much clearer and more meaningful conversations. When discussing goals, managers who connect expectations to team- and organization-wide strategy help their team members understand how their contribution supports a bigger vision. That understanding is far more powerful than a report feeling like they should do something just because their manager told them to.
- **Embrace personal feedback: -** Managers should encourage their direct reports to give feedback of their performance as a supervisor — it's the best way for you to get better. Soliciting, embracing, and acting upon the feedback you receive will improve communication and increase morale and output.
- **Develop a rhythm: -**An operating rhythm is about ensuring that certain vital activities are performed in a consistent manner to a high degree of excellence both across a business and within the business. The key aim being to drive efficiency, effectiveness and therefore productivity."
- **Create a paper trail: -**When giving feedback, document exactly what the issue was and the suggestions for improvement that were given. Take notes during your 1:1 to ensure you follow through on commitments to your team. Paper trails, like Pathlight's management platform, prevent employees from slipping through the cracks because managers don't have to keep a mental list of conversations.

- **Implement an open door policy: -**Having an open door policy is one of the most classic tools used to promote communication. When a manager's door is open, members of his or her team can provide or request feedback, ask for advice, or share concerns. This policy promotes a sense of transparency and openness between you and your team.
- **Cultivate intra-team communication: -**When cultivating intra-team communication, it's your job to make sure everyone is heard. This means making sure that those who are less likely to speak up are able to express themselves.

Figure 19: Cultivate intra-team communication

3.1.4. Training

A team that isn't learning is stagnating. Teams that aren't given opportunities to develop their skills may suffer from a lack of confidence to perform at their best.

It's up to you to provide opportunities to learn through mentoring, training or on the job coaching. Targeting areas where team members are lacking confidence is a good starting point.Cross training your teamis also very important. Cross training means spreading skills and experience throughout your team. Cross training also allows your team members to work with colleagues to solve problems, rather than feeling like they're the only person who can understand them.

- **How to conduct an effective training session**

All the planning has been done. All the preparation is taken care of. You know your training needs, you've set goals, management is behind you, you promoted your training schedule, and prepared materials, space, and people. The time has finally come: Training day is here. Here are some specific tips and techniques to help you run an effective training session that accomplishes your goals in an enjoyable and engaging way for everyone involved.

- ✓ Tell trainees what you're going to cover. Introduce your session with a brief overview of the training subject's main points.
- ✓ Tell them the information. In the main portion of the session, explain key points, go over policies, demonstrate procedures, and relate any other information trainees need to know.
- ✓ Tell them what you told them. Conclude with a summary of your opening overview. Use repetition to help trainees grasp and retain information.
- ✓ Always explain what trainees are going to see before you show a multimedia portion. This practice creates a better learning environment by guiding trainees to know what to look for and what to remember.
- ✓ Use as much hands-on training as possible. The most effective training uses all the senses to affect learning. Demonstrate and apply teaching points to create greater understanding and knowledge of the subject.

- ✓ Test frequently. Tests are most effective when students know they will be quizzed, because they'll pay close attention to the material. Testing is an objective way to determine whether training achieved its goals.
- ✓ Involve trainees. For example, ask participants to share their experiences with the training topic. Many trainees are experienced personnel who have valuable information to contribute.
- ✓ Repeat questions before answering them. This practice ensures that all participants know what the question is so they can make sense of the answer.
- ✓ Analyze the session as you go. Always be on the lookout for what works best.
- ✓ Keep your session on track. Start on time and finish on time. Don't hold up class waiting for late arrives? Run the class according to the schedule and don't get too far off course. Opening up discussion among participants may lead to some pertinent tangents, but don't let side issues take over. Ask if there's enough interest to pursue a separate session on that topic, but get this class back to the lesson plan.
- ✓ Put yourself in their shoes—or seats. Give frequent breaks, especially for half-day or all-day sessions.
- ✓ Solicit feedback on the training session. Critiques work best when they are written and anonymous, unless a trainee volunteers to discuss his or her thoughts in person.

Self-check 3	Written test

Instructions*:* Directions: all the questions listed below. Choose the best answer and write your Answer in the sheet

1. Which one is the waysGetting help from team members and supervisors?
   A. Problem solving meetings
   B. Suggestion schemes
   C. Regular communication and Information sessions with team leaders
   D. Training
   E. All of the above
   F. None of the above

2. One of the following is some specific tips and techniques to help you run an effective training session that accomplishes your goals in an enjoyable and engaging way for everyone involved?
   A. Tell trainees what you're going to cover. Introduce your session with a brief overview of the training subject's main points
   B. Tell them what you told them. Conclude with a summary of your opening overview. Use repetition to help trainees grasp and retain information
   C. Analyze the session as you go. Always be on the lookout for what works best.
   D. Put yourself in their shoes—or seats. Give frequent breaks, especially for half-day or all-day sessions.
   E. All of the above
   F. None of the above

3. Which one are the following tips will help managers improve communication to and between their team members?
   A. Provide role clarity.
   B. Use data whenever possible do not try to take the stairs or the elevator to get to the Building Security.
   C. Embrace personal feedback
   D. Develop a rhythm
   E. All of the above

4. One is an internal promotion plan essential scheme's success which one?
   A. Give your suggestion scheme a name
   B. Develop a launch plan to create initial buzz and encourage staff to submit ideas
   C. Create an ongoing training plan to ensure staff understand the type of ideas you're looking for
   D. Consider how to maintain momentum and celebrate successes
   E. All of the above

Note: Satisfactory rating – 4 points **Unsatisfactory - below 4 points**

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date: _____

1. _____
2. _____
3. _____
4. _____

Operation sheet 1	Procedures of responding ranges of emergency

Activity 1: Respond to fire

Step1: Wear appropriate personal protective equipment

Step2: Describe what to do when a fire is discovered.

Step3: Select appropriate tools and equipment

Step4: Remain call to responsible organization

Step5: Direct individuals to leave the building.

Step6: The last person to leave an area should close but not lock the doors

Step7: Go to nearest exit to leave the building and proceed at least 100 feet from the building.

Step 8: Maintain and store tools and equipment

Activity 1: Respond to flood

Steps

Step 1: Wear appropriate PPE

Step 2: Select appropriate tools and equip

Step 3: Move to higher ground immodestly

Step4: Stay out of flood waters

Step 5: Avoid driving through flooded areas

Step 6: Stay away from power lines and electric wires

Step 7: If time allows, turn off electricity and gas

Step 8: Maintain and store tools and equipment

Operation sheet 2	Steps of Getting Help from Team Members and Supervisors

Activity steps of getting help from team members and supervisors

Step 1: Discuss goals the idea

Step 2: Identify the team development gaps.

Step3: Establish specific training objectives

Step 4: Create the right training plan

Step5: Celebrate and make it fun.

LAP test	Practical demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given the necessary tools and equipment, perform the following tasks in 8 hrs.

Task 1: Respond range of emergency of fire and flood

Task 2: Get help from team members and supervisors in working area

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