

Private Security

NVEQ Level 1 – Class IX

SS104-NQ2012- Occupational Health and Safety
Procedures

Student's Workbook



प.सु.श.केन्द्रीय व्यावसायिक शिक्षा संस्थान, श्यामला हिल्स, भोपाल
PSS Central Institute of Vocational Education, Shyamla Hills, Bhopal

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Student Details

Student Name: _____

Student Roll Number: _____

Batch Start Date: _____

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Preface

The National Curriculum Framework, 2005, recommends that children's life at school must be linked to their life outside the school. This principle makes a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home, community and the workplace.

The student workbook on “**Occupational Health and Safety Procedures**” is a part of the qualification package developed for the implementation of National Vocational Education Qualification Framework (NVEQF), an initiative of Ministry of Human Resource Development (MHRD), Government of India to set common principles and guidelines for a nationally recognized qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, Colleges and Universities. It is envisaged that the NVEQF will promote transparency of qualifications, cross-sectoral learning, student-centred learning and facilitate learner's mobility between different qualifications, thus encouraging lifelong learning.

This student workbook, which forms a part of vocational qualification package for student's who have passed Class VIII or equivalent examination, was created by a group of experts. The Security Knowledge and Skill Development Council (SKSDC) approved by the National Skill Development Corporation (NSDC) for the Private Security Industry developed the National Occupation Standards (NOS). The National Occupation Standards are a set of competency standards and guidelines endorsed by the representatives of Private Security Industry for recognizing and assessing skills and knowledge needed to perform effectively in the workplace.

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent of National Council of Educational Research and Training (NCERT) in association with SKSDC has developed modular curricula and learning materials (Units) for the vocational qualification package in Private Security sector for NVEQ levels 1 to 4; level 1 is equivalent to Class IX. Based on NOS, occupation related core competencies (knowledge, skills, and abilities) were identified for development of curricula and learning modules (Units).

This student workbook attempts to discourage rote learning and to bring about necessary flexibility in offering of courses, necessary for breaking the sharp boundaries between different subject areas. The workbook attempts to enhance these endeavour by giving higher priority and space to opportunities for contemplation and wondering, discussion in small groups and activities requiring

hands-on-experience. We hope these measures will take us significantly further in the direction of a child-centred system of education outlined in the National Policy of Education (1986).

The success of this effort depends on the steps that school Principals and Teachers will take to encourage children to reflect their own learning and to pursue imaginative and on-the-job activities and questions. Participation of learners in skill development exercises and inculcation of values and creativity is possible if we involve children as participants in learning, and not as receiver of information. These aims imply considerable change in school routines and mode of functioning. Flexibility in the daily time-table would be a necessity to maintain the rigour in implementing the activities and the required number of teaching days will have to be increased for teaching and training.

About Your Workbook

This workbook is to assist you with completing the Unit of Competency **SS104-NQ2012: Occupational Health and Safety Procedures**. You should work through the workbook in the classroom, at the workplace or in your own time under the guidance and supervision of your teacher or trainer. This workbook contains sessions which will help you to acquire relevant knowledge and skills (soft and hard) on various aspects of the unit of competency. Each session is small enough to be easily tackled and digested by you before you move on to the next session. Animated pictures and photographs have been included to bring about visual appeal and to make the text lively and interactive for you. You can also try to create your own illustrations using your imagination or taking the help of your teacher. Let us now see what the sections in the sessions have for you.

Section 1: Introduction

This section introduces you to the topic of the Unit. It also tells you what you will learn through the various sessions covered in the Unit.

Section 2: Relevant Knowledge

This section provides you with the relevant information on the topic (s) covered in the session. The knowledge developed through this section will enable you to perform certain activities. You should read through the information to develop an understanding on the various aspects of the topic before you complete the exercise (s).

Section 3: Exercise

Each session has exercises, which you should complete on time. You will perform the activities in the classroom, at home or at the workplace. The activities included in this section will help you to develop necessary knowledge, skills and attitude that you need for becoming competent in performing the tasks at workplace. The activities should be done under the supervision of your teacher or trainer who will guide you in completing the tasks and also provide feedback to you for improving your performance. To achieve this, prepare a timetable in consultation with your teacher or trainer and strictly adhere to the stipulated norms or standards. Do not hesitate to ask your teacher or trainer to explain anything that you do not understand.

Section 4: Assessment

The review questions included in this section will help you to check your progress. You must be able to answer all the questions before you proceed to the next session.

INTRODUCTION



Have you ever gone through the experience of slipping on the banana peel thrown by another person at a public place? If not, then you are a lucky few who did not get hurt due to the **negligence** of the others. It is a common phenomenon in public places where vendors sell fruits and people do not bother throwing the peel on the road.

At home too, you must have experienced injury due to **hazardous tools, equipment, and materials**. For instance, while working in the kitchen, your mother might have at times hurt her finger with a knife. Similarly, workers in industry, factories, warehouses, and organisations are exposed to various hazards. Health and safety of people are important aspects for an organisation's smooth and effective functioning. Good health and safe performance ensures an accident-free industrial environment.

Occupational health and safety (OHS) is an area which is concerned with protecting the safety, health and welfare of people engaged in work or employment. The goal of occupational safety and health procedures and programmes is to establish and foster a safe and healthy work environment for all workers. The occupational health is often given less attention than occupational safety as the former is considered more as a personal issue.

In this Unit, you will develop an understanding of the various types of hazards that may occur at the workplace and the relevant occupational health and safety requirements for security operations. You will also learn how to identify and manage risks and hazards at workplace.

SESSION 1: IDENTIFYING COMMON HAZARDS AND RISKS AT WORKPLACE

RELEVANT KNOWLEDGE



MEANING OF HAZARD

A **hazard** is any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work. It is something that can cause harm or adverse effects if not controlled. There could be many sources of occupational hazards. Some of these include the following:

- Wet or slippery surfaces
- Electrical short circuits
- Working at heights
- Manual handling
- Toxic fumes
- Fire
- Plant and equipment
- Hazardous or sharp objects in the waste
- Radiation
- High-crime areas
- Confined spaces like manhole, warehouse, etc.



There are many hazards that exist at the workplace. While some will be common to all, others will be occupation-specific. You must be able to identify the hazards present at the workplace so that in future when you become an employee you can identify, prevent and control various types of hazards.

New hazards may arise throughout the day and from day today. The hazards can be categorized as follows:



(a) Hygiene related

Contamination of hands, face and other exposed parts of the body with solids, liquids and gases from waste and this may lead to exposure to diseases such as Hepatitis B. Hepatitis B is a serious infection that affects liver. It is caused by hepatitis B virus.



Stepping on rusty nails, tin or iron and it may lead to exposure to Tetanus. It is caused by tetanus bacteria (Scientific name - *Clostridium tetani*).

(b) Tools and machinery causing injury

- Use of cutting and welding machines.
- Heavy vehicles offloading large amount of material.
- Speed of vehicles.
- Unguarded machinery.



(c) Hazardous substances/dangerous goods exposure

- Flammable, explosive or hazardous substances.
- Gas cylinders.
- Dust or other particles, such as glass fines in the air can be inhaled.
- Hazardous chemicals in factories.



(d) Working at heights/falls

- Falls from ladder or buildings.
- Falls from dumping platforms.
- Slip, trip, fall hazards due to liquid leakages around the site.

(e) Manual handling

- Removing sharp materials from waste.
- Assisting in unloading vehicles.
- Manually moving large or awkward loads.

(f) Noise

- High level of constant noise from heavy plant and vehicles moving around the site.
- Wearing ear plugs may render a person unable to hear vehicle movements nearby.
- Use of mobile phones while working.



(g) Electrical

- Overhead or underground live electricity.
- Poorly maintained or exposed electrical leads and plugs.

(h) Confined Spaces

Confined spaces refer to spaces such as septic tanks, pits, manholes, silos, containers, tunnels, etc. A person may enter the confined space if he/she is appropriately trained and also has specific approval from the supervisor to do so.



(i) Fire

Common causes of fire at workplace include careless smoking, disposal of matches, inadequate distance from the combustible materials, defective electrical equipment, and substandard electrical wires.

CLASSIFICATION OF HAZARDS

Classification of Hazards: Let us now try to classify the hazards. Based on the origination, hazards can be classified into the following broad categories:

(a) Biological - Biological hazards are caused by living organisms like bacteria, viruses, insects, plants, birds, animals, humans, etc.

(b) Chemical - Chemical hazards depend on the physical, chemical and toxic properties of the chemical. The severity of the hazard depends on the toxic properties of the chemical.

(c) Ergonomic - Ergonomic hazards are caused due to repetitive movements, improper set up of workstation (e.g. computer workstation, workstation for repair of electrical gadgets, etc.), faulty designed chairs, tools and equipment, wrong postures, etc.

(d) Physical - Physical hazards are caused due to radiation, magnetic fields, pressure extremes (high pressure or vacuum), noise, etc.

(e) Psychosocial - Psychosocial stress are caused due to violence, excessive pressure at workplace for meeting deadlines, conflicts at workplace, etc.

(f) Safety - Safety hazards at workplace include slipping/tripping hazards, inappropriate machine guarding, and equipment malfunctions or breakdown.

MEANING OF RISK

Risk is the chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard. Risks usually arise because of financial problems, organization, employee, workplace, product changes, security and storage of data and records and other problems. Common risks include things like accidents in the workplace, disasters like earthquakes, fire, cyclone, etc. It can also include legal risks like fraud, theft, and sexual harassment lawsuits. Risks can be categorized into (a) General or pure risks, and (b) workplace or business risks.

Risk identification: In order to identify the risk we need to identify the source or the cause of the problem. Risk identification process begins by collecting the information about the events that could pose a risk. The employer should identify how the workers might be harmed, i.e., what type of injury or ill health might occur at the workplace.

(a) General or Pure Risks

These are the risks related to life in general i.e. risks that may arise at home, on road or at public place.

- (i) *Physical risks:* These include due to natural disturbance risks or disasters e.g. earthquake, tsunami, volcanic eruption, etc.
- (ii) *Risks due to extreme climatic and meteorological conditions:* These include risks due to typhoon, tornado, cyclone, flood, drought.
- (iii) *Social risks:* Risks due to theft, malicious damage, and fraud.

(iv) *Legal risks*: Risks due to legal actions against the organization/firm by the consumers or other stakeholders.

(b) Workplace or business risks

These are risks related to business or occupation.

(i) *Operational or Production risks*: Risks which interrupt the operation of the production process, such as mechanical failure, failure of technical processes or late delivery of supplies and services.

(ii) *Technological risks*: Risks associated with lack of technical information or technological expertise.

(iii) *Financial risks*: Risks due to government financial policies, terms of credit, inflation, operational costs, etc.

(iv) *Social risks*: Risks due to action of special interest groups.

(v) *Market-related risks*: Risks due to loss of product quality, lack of market information or actions of third party.

(vi) *Consumer-related risks*: Risks due to loss of consumer interests, health regulations or actions of consumers.

EXERCISE**Assignment**

1. Name the occupation of the person who performs the following activity in the school:

Activity	Occupation
Manual handling of copies	
Manual handling of books	
Handling of hazardous chemicals	
Stacking books in shelves	
Cleaning floor	
Sorting and delivery of mail	
Standing for long hours at the gate	
Sitting for long hours at the reception	
Typing on computer	
Sitting for long hours for settling accounts	

2. Observe and identify two sources of hazards in your school premises and suggest preventive measures that should be taken up to mitigate the risks from the same.

Hazard 1: _____

Hazard 2: _____

A. Fill in the blanks

1. _____, _____ and safety is an area concerned with protecting the safety, health and welfare of people engaged in work or employment.
2. A hazard is any source of potential damage, _____ or adverse health effects on something or someone under certain conditions at work.
3. Chemical hazards depend on the physical, chemical and _____ properties of the chemical.
4. _____ chemicals and substances may cause change in body function or the structures of cells that can lead to disease or health problems.
5. Health and _____ of people are important aspects for an organisation's smooth and effective functioning.

CHECKLIST FOR ASSESSMENT ACTIVITY

Use the following checklist to see if you have met all the requirements for assessment activity.

Part A

- (a) Differentiated between health and safety.
- (b) Differentiated between various sources of hazards.
- (c) Differentiated between hazards and risks.

Part B

Discussed in class the following:

- (a) What is hazard?
- (b) Why occupational safety and health is important for employees and employers?
- (c) What are the common hazards that occur at workplace?
- (d) Why do we need to study about occupational health and safety?

Part C

Performance standards

The performance standards may include, but not limited to:

Performance standard	Yes	No
Enlist 6 common sources of hazard at workplace.		
Enlist 2 types of physical risk.		
Enlist 2 types of social risks.		
Enlist 2 types of operational or production related risks.		
Identify common hazards at workplace		

SESSION 2: ASSESSING AND REDUCING RISKS ASSOCIATED WITH HAZARDS

RELEVANT KNOWLEDGE



RISK MANAGEMENT

Risk management involves Identifying hazards, **assessing** the risks associated with the hazards, implementing the best practicable measure to eliminate or control the risk and monitoring the effectiveness of control measures. Risk management should be applied to the use of all materials and the types of activities carried out in the workplace. It means that you evaluate the hazards and develop strategies to avoid or minimize the potential for an injury to you or any other person. Therefore, occupational health and safety (OHS) strategy involves 3 stages: (i) hazard identification, (ii) risk assessment, and (iii) elimination or control, and (iv) monitoring/ review of control measures.

Steps involved in risk management

There are four steps involved in the risk management process:

Step 1: Identify risks and hazards.

Step 2: Assess the risks associated with the hazards.

Step 3: Implement the best practicable measure to eliminate or control the risk.

Step 4: Monitor/review control measures.

1. Identifying risks and hazards: In Session 1, we have learnt about the various hazards and risks at workplace. Let us quickly review what we have learnt. Hazards at workplace could be hygiene related, due to use of tools and machinery, hazardous substances or chemicals, working at heights, manual handling, electrical fittings or wires, fire, etc.

Now let us try to understand how we can identify the risks and hazards at workplace.

Identifying risks and hazards

The various ways by which we can identify risks and hazards include the following:

- (i) *Incident report forms*: It is the report of the incidents that took place in the past. It serves as a record for future reference.
- (ii) *Self inspection checklist*: The self inspection checklist helps the maintenance staff to effectively plan regular and emergency maintenance tasks and check against the list of tasks to be performed for maintenance of the machines or equipment.
- (iii) *Observations*: By *observing* the activities or tasks being performed by the workers, we can assess the risks or possible hazards.
- (iv) *Knowledge sharing*: If employees share experiences about the untoward incidents that they have faced in the past, then such *sharing of knowledge* helps in taking necessary precautions and issuing necessary instructions to the workers.
- (v) *Consultation with specialists*: Consulting specialists in the field helps in mitigating or preventing hazards.
- (vi) *Regular maintenance checks*: Regular maintenance helps in preventing problems such as blockages, leaks or breakdowns, which can increase risks. A maintenance schedule should be in place to ensure that your equipment is maintained at intervals indicated in the manufacturer's operating instructions.

2. Risk Assessment: When a hazard has been identified, the next step is assessing the risks associated with the hazards so that it doesn't harm you or others in the workplace. This means assessing the risk associated with the hazard. Risk is normally assessed in terms of how severely someone could be injured or become ill (the consequence) and the likelihood of someone becoming injured or ill from exposure to the identified hazard. Risk assessment is the process where you:

- Identify hazards;
- Analyse or evaluate the risk associated with that hazard; and
- Determine appropriate ways to eliminate or control the hazard.

(a) Judging the likelihood: Keeping the severity/consequence in mind, think about the hazard and ask yourself how likely is it that someone might be affected by the hazard:

- Very likely - could happen at any time.
- Likely - could happen sometime.
- Unlikely - could happen, but very rarely.
- Very unlikely - could happen, but probably never will.

(b) Judging the severity/consequence: When judging the severity of a hazard, think about whether it could:

- Kill or cause permanent disability or ill health.
- Cause long term illness or serious injury.
- Cause someone to need medical attention.
- Cause someone to need first aid.

The severity of the risk can be categorized as follows:

- **X - Extreme Risk** - extremely urgent, action *IMMEDIATELY*.
- **H - High Risk** - urgent, action *AS SOON AS POSSIBLE*.
- **M - Medium Risk** - action within *ONE WEEK*.
- **L - Minor Risk** - not urgent, action within *ONE MONTH*.
- **OK - No Risk** - no action required.

Factors that influence the degree of risk include:

- How much a person is exposed to a hazardous thing or condition;
- How the person is exposed (e.g., breathing in a vapour, skin contact); and
- How severe are the effects under the conditions of exposure.

A risk assessment of your workplace may lead to the discovery of risks and hazards. It is likely they can't all be fixed at once, so it is essential to plan and prioritize actions so that the hazards can be fixed. The worst hazard must be fixed first i.e. those that could happen at any time and are most severe and likely to cause injury or illness. The various elements of risk assessment are summarized in the table below:

Stay on the lookout	<ul style="list-style-type: none">• Be on the lookout for hazards at all times.• Utilise the systems for hazard reporting so that something can be done about them.
Anticipate hazards	<ul style="list-style-type: none">• Think about possible hazards BEFORE you start each task.

Account for change	<ul style="list-style-type: none"> • Change may occur as a result of a new project commencing, altering the work system, the introduction of new staff, and/or the addition or change of tools plant or substances. • Change can introduce hazards, so be aware and implement the hazard identification process
Report new hazards	<ul style="list-style-type: none"> • As soon as a new hazard is identified, report it immediately
Conduct risk assessment regularly	<ul style="list-style-type: none"> • Everyone is responsible for being on the lookout for hazards, and the process should be a part of everyday work practices.
Keep records	<ul style="list-style-type: none"> • Records of maintenance of plant and equipment should be maintained regularly.

The ultimate aim of a risk assessment is to identify and rank hazards so that something can be done about them.

3. Implementing practicable measure to eliminate or control risk: The third step is to implement control measures to eliminate or reduce the risks of a person being injured or harmed and ensure the measures are monitored and reviewed on an ongoing basis. A control is a mechanism or process that minimizes the risk of the hazard becoming actual.

Examples of actions that can be taken to control common workplace hazards are given in table below.

PROBLEM	EXAMPLES OF ACTIONS THAT CAN BE TAKEN TO CONTROL HAZARDS
Spillage of wet or dry substances	Isolate and clean-up spills without delay. Use warning signs to alert people to surfaces that are wet following recent cleaning or spills. Use absorbent materials for cleaning up spills.
Unsuitable footwear	Wear the most appropriate footwear for the job and work environment.
Wet or dirty footwear, or wet clothing	Wipe shoes on available mats and shake off wet clothing or umbrellas.
Poor lighting	Provide adequate lighting.
Untidy areas	Keep workplace tidy and walkways clear. Make sure objects don't create a trip hazard.
Rubbish/Waste	Remove waste paper, food, packaging, and other rubbish from the bin regularly. Carry out regular site clean-ups to remove rubbish.
Untidy Stairs	Don't use stairways for storage. Always use handrails. Provide ample lighting above the stairs.
Excessive loads	Report workload problems to your supervisor and avoid carrying excessive workload. When moving materials by hand or by trolleys that are pushed, make sure materials are not stacked so high that the view of the floor ahead is obscured.
Fault with Machinery and equipment	Carry out regular maintenance and inspection of production machinery for signs of leaks.
Risky ladders	Use ladders in accordance with the manufacturer's information on safe use.

4. Monitoring/ review of control measures: The fourth step is to regularly monitored and reviewed. While monitoring, it is essential to know whether the control measures been implemented as planned and whether the control measures are being used as per the procedure.

EXERCISE

Case Based Problem

Read the scenario given below carefully:

Scenario

In most cities, many manholes lie uncovered, which is something that worries local residents. In villages too, bore wells lie uncovered and poses threat to the children who are always at risk as they generally play near the wells. Children may drown in the wells and such incidents have occasionally occurred in rural areas. Most sewage lines in cities are dry, but some have sewage water running. The uncovered manholes are also a threat to the vehicles as they often get stuck in them. Some of them are so big that even the tires of trucks get stuck in them. Aged people are so worried about their safety that they always carry a torch with them and generally avoid moving out in the night. Parents are worried about the safety of their children when they go to school. Some people who have grave concern for the nuisance and are action oriented have put stones around the manholes to warn people and drivers about the potential hazard. The municipal authorities, which are responsible for covering the manholes complain that the manhole covers are stolen by the locals and therefore they are helpless in solving the problem permanently.

Based on the above scenario, answer the following questions:

1. What is the source of hazard in the city?

2. What is the source of hazard in the village?

3. Who are the people most affected in the city?

4. What is the risk associated with the hazard in villages?

5. What measure was adopted by some action oriented people to control the hazard in cities?

6. Is the action taken by senior citizens sufficient for controlling the hazard?

7. What should the municipal authorities do to permanently solve the problem?

Fill in the Blanks

1. Risk is the chance or probability that a person will be harmed or experience an adverse health effect if exposed to a _____.
2. The third step involved in the process of risk management is to implement the _____ measures.
3. _____ is the process where one can identify hazards, analyse or evaluate the risk associated with that hazard and determine appropriate ways to eliminate or control the hazard.
4. There are _____ steps involved in the process of risk management.

B. Short Answer Questions

1. What will you do in the following situations?

(a) A coworker in the factory is found bleeding from the head?

CHECKLIST FOR ASSESSMENT ACTIVITY

Use the following checklist to see if you have met all the requirements for assessment activity.

Part A

- (a) Described the various steps involved in risk management.

Part B

Discussed in class the following:

- (a) What is risk management?
- (b) What are the factors that affect the likelihood of hazard?
- (c) What are the factors that influence the severity of hazard?

Part C

Performance standards

The performance standards may include, but not limited to:

Performance standards	Yes	No
Enlist 5 factors to be considered for risk assessment.		
Determine the likelihood of hazard in a given situation.		

SESSION 3: CONTROLLING HAZARDS

RELEVANT KNOWLEDGE

Hazard control refers to the mechanism or practicable measures used for eliminating or reducing a risk. A hazard control program consists of all steps necessary to protect workers from exposure to a substance or system. It includes the procedures required to monitor worker exposure to health hazards such as chemicals, materials or substance, or other types, such as noise and vibration. Occupational Health and Safety law requires employers to provide the systems or opportunities for reporting hazards as they arise, and to respond to the problem when it is brought to the attention of the employer. The process encourages everyone to work together to prevent workplace injury and illness. A written workplace hazard control program should outline which methods are being used to control the exposure and how these controls will be monitored for effectiveness.

MEANING OF HAZARD CONTROL

Choosing a control method may involve:

- Evaluating and selecting temporary and permanent controls.
- Implementing temporary measures until permanent (engineering) controls can be put in place.
- Implementing permanent controls when reasonably practicable.

Emergency Response

Emergencies can occur due to a variety of circumstances such as chemical leak, ignition of waste materials, someone being injured, power failures affecting equipment, etc. Emergency response procedures cover the roles and responsibilities of employees and the steps that should be taken in the event of an emergency on-site.

This ensures the following:

1. Alarms are activated.
2. Emergency response procedures for the specific emergency are followed.
3. First aid is given without putting own life in danger.
4. Emergency equipment are used as per their respective operating procedures.
5. Concerned agencies like fire brigade, ambulance and police are informed.

Remember, some emergencies are controlled by external emergency authorities such as the fire brigade, police, ambulance etc. If external authorities are required, they should be immediately called and then they will assume control of the emergency situation. Just as people need to know what to do if something goes wrong, the workplace itself needs to be ready in the event of an emergency. Some items of safety equipment are specific to the work activities of an organisation, whilst others are mandatory or a requirement of the law. Fire extinguishers and first aid kits are two examples of the types of emergency equipment found in the workplace and are required by law. Eye wash stations and emergency showers are two examples of the types of emergency equipment that would be required as per the organisation's activities.

Hazard control measures: The effectiveness of hazard control measures varies with the method used. Hazard control measures should be considered in the following order:

1. **Elimination** of the hazard involves removal of the risk e.g. by removing the substance or changing work practices.

HAZARD CONTROL MEASURES

The best approach is to always keep exposures or the risk of a hazard as low as possible. For example, placing a hood on the gas stove in the kitchen helps in eliminating the gases while cooking. A fan draws the air from the hood into the ducts and removes the air from the workspace into an open space.

2. **Substitution** of the hazard with a hazard that carries a lesser risk e.g. replacing the plant or substance with another with a lower risk.
3. **Isolation** of the person at risk from the hazard e.g. by removing or separating people from the source of the hazard. For instance, using Personal Protective Equipment while spraying pesticides on crop can isolate the farmer from getting exposed to the pesticides.
4. **Engineering control** involving redesign to minimize the risk. For example, use electric motors rather than diesel ones to eliminate diesel exhaust emissions.
5. **Process control** involves changing the way a job activity or process is done to reduce the risk. For example, instead of using dry method, wet method should be used when drilling or grinding. It reduces the level of dust in the atmosphere.
6. **Administrative control** to minimize the risk involves developing policies, training, changing work methods to ensure safe behaviour (safe work procedures), ensuring proper maintenance and housekeeping. Scheduling maintenance of the equipment definitely helps in avoiding hazards.
7. **Use of Personal Protective Equipment (PPE):** PPE is defined as any clothing, equipment or substance designed to be worn by a person to protect the person from the risks of injury or illness. Personal Protective Equipment includes equipment or clothing designed to provide

protection. This is the least effective option as it does not change the hazard.

Common Personal Protective Equipment includes the following: shoes, goggles, aprons, ear plug, helmet, gloves, eye shield, and gas mask.

Personal Protective Equipment should be used in conjunction with other control measures to increase the level of protection from the hazard.



Important aspects of PPE that you must know are:

- Where do you access the required PPE?
- When are you required to use it?
- How do you use it correctly?
- How do you care for and maintain your PPE?
- When does it need to be replaced?
- Does it comply with the relevant Standard?

Do's and Don'ts to reduce risk at workplace

- Warn co-workers of the risks when you see them doing something unsafe.
- Perform regular housekeeping to prevent the accumulation of hazardous or toxic materials.
- Develop and implement standard operating procedures.
- Train and educate employees about the operating procedures.
- Keep equipment well maintained.
- Pay attention to safety signs and safety rules.
- Use safe lifting techniques.
- Handle hazardous chemicals safely.
- Never touch electrical equipment with wet hands.
- Prepare and train for emergency response.
- Attend all safety meetings and training sessions.

EXERCISE

Assignment

1. Given below is a list of common problems that occur due to faulty tools/equipment, wrong postures or long hours of work. Talk to the people in different occupations in school, home and workplace around your home and find out the common cause for such problems.

1. Occupation_____

Common problem	Reason		
	Faulty tools/equipment	Wrong posture	Long hours of work
Back ache			
Headache			
Neck pain			
Stress			
Irritation			
Depression			

2. Occupation_____

Common problem	Reason		
	Faulty tools/equipment	Wrong posture	Long hours of work
Back ache			
Headache			
Neck pain			
Stress			
Irritation			
Depression			

2. What do you suggest that these people should do to solve their problems? Give your suggestions occupation-wise.

Occupation 1: _____

Occupation 2: _____

Fill in the Blanks

1. Never touch electrical equipment, switches, or plugs with _____ hands.
2. To ensure a safe lift, bend at the _____ and power the lift with your legs.
3. _____ Protective Equipment provide a personal barrier between you and workplace hazards.
4. The two important emergency equipment which are found in the workplace and are required by law are fire extinguishers and _____ kit.
5. The process used to practicable measures used for eliminating or reducing a risk is known as _____.
6. _____ of the hazard involves removal of the risk.
7. _____ control involves redesign to minimize risk.
8. Eye wash stations and emergency showers are two examples of the types of _____ equipment that is required as per the organisation's activities.

CHECKLIST FOR ASSESSMENT ACTIVITY

Use the following checklist to see if you have met all the requirements for assessment activity.

Part A

- (a) Differentiated between the elimination and substitution of hazards.
- (b) Differentiated between the engineering and process control.

Part B

Discussed in class the following:

- (a) What is hazard control?
- (b) What is engineering control?
- (c) What is administrative control?
- (d) Why do we need to implement different hazard control measures?

Part C

Performance standards

The performance standards may include, but not limited to:

Performance standards	Yes	No
Identify personal protective equipment.		
Specify control measures for 2 types of hazards at workplace.		
Compile a list of 4 hazard control measures.		

SUGGESTED READING

BOOKS

- Fundamental Principles of Occupational Health and Safety by Benjamin O Alli, International Labour Organisation (ILO).
- Fundamental Principles of Occupational Safety and Health by Mark A Friend and James P Kohn, The Scarecrow Press, USA.
- Occupational Safety and Health in the Emergency Services by James Angle Delmar, Learning, USA.

WEBSITES

- http://www.det.nt.gov.au/__data/assets/pdf_file/0011/4106/risk_management_process.pdf
- http://www.comcare.gov.au/__data/assets/pdf_file/0007/41299/Identifying_hazards_in_the_workplace_OHS_10_Feb_05.pdf
- <http://www.businessdictionary.com/definition/stakeholder.html#ixzz1p0cL6pLD>
- http://www.ehow.com/how_2294804_communicate-effectively-team.html#ixzz1p16wB3QR (How to Communicate Effectively in a Team)
- <http://www.hrdp-idrm.in> (Disaster Management Institute, Bhopal)
- <http://www.ilo.org> (International Labour Organisation)