NEBOSH IGC1

Element - 1

Foundation in Health and safety

Give the meaning of the following terms;

HEALTH

The protection of bodies and minds of people from illness resulting from materials, process or procedures used in the workplace due to occupational exposure to chemicals and certain hazards leading to such consequences like cancer, silicosis, noise induced hearing loss, Vibration white finger etc.

SAFETY

The protection of people from physical injury – Eg. Cuts, crush, amputation, etc. It refers to a workplace having an acceptable degree of freedom from risk (i.e) Risk is reduced as low as reasonably practicable.

WELFARE

Looking after people's basic needs. Provision of welfare facilities such as clean drinking water, hygienic washroom facilities, clinic facilities, rest area to relax, transport facilities from workplace to camp/residence and back.

ENVIRONMENTAL PROTECTION

Protection of the environment from Air pollution, water pollution and land pollution in order to protect Animals, Birds, plants, Water / sea living organisms and human from health effects of pollution.

Explain the reasons for promoting and maintaining good standards of Health and Safety in the workplace?

1. MORAL REASONS (Social Concerns) – When good H & S standards are not maintained it will kill and injure people. Society as a whole considers injuries should not be the price to feed a worker's family. Employer who provides the work premises, equipments should demonstrate ethical and responsible behavior to safeguard the health and safety of his employees. (Moral Duty of Care).
2. LEGAL REASONS (Social Expectations) – To fulfill the legal requirements of the country with respect to health and safety. Breach of Health and safety legislation is a criminal offence and would result in formal enforcement actions, fines and/or imprisonment. Criminal proceedings against the organization will lead to bad publicity and end up in losing reputation. Further legal implications include civil pursuit for compensatory claim by affected person.

3. COST REASONS/ ECONOMIC REASONS/ FINANCIAL REASONS – If good standards of Health and safety are not maintained in the workplace, it will result in accidents. To overcome the losses which otherwise an organization has to incur due to accidents and ill-health such as loss of skill, property damages, business interruption and loss of Goodwill/Reputation.

Outline Potential barriers to achieving good standards of health & Safety?

To Start with, the very complicated nature of workplace involving different activities carried out by many different people, where deficiency in co-ordination could become a barrier to achieving good standards of Health & Safety.

Other Potential barriers would be conflicting demands such as meeting production targets vs need to achieve the same without compromising safety; Behavioral issues such as committing errors(unlimited deviations) or Violations (deliberate) at work, as workers sometimes don't follow safe practices because they are not programmed robots.

Identify possible costs to an organization following an accident in a workplace?

The costs to an organization following an accident would be Direct Cost & Indirect Costs.

Direct Costs include First aid treatment, Work sick pay, Repairs/ Replacement of damaged equipment/ buildings, lost production time whilst dealing with the injury, overtime to make up for lost time, fines in the criminal court, costs associated with the rehabilitation of injured worker and their return to work, etc.,

Indirect cost include loss of staff from productive duties who investigate accidents/visit hospitals/clean up accidents sites, loss of morale (impact on productivity), cost of recruiting/training temporary replacement labor, loss of goodwill of customers following production delays, activation of penalty clauses for not meeting delivery dates, compliance with any enforcement notices served, loss of reputation etc,.

Outline reasons why it is important that an organization maintains employer's liability insurance.

It is important for an organization to maintain employers' liability insurance to cover some of the losses that might foresee ably occur to an organization. In most countries it is compulsory to take out employer's liability insurance to meet civil liabilities. Apart from that, the insurance may provide some comfort to workers as they are aware that the employer is insured to compensate them in the event of any injury.

An organization has had an increase in the number of manual handling accidents and associated health. Identify sources of information that may be available to help reduce the risks to workers.

The sources of the information that may be available to help reduce the risks to the workers are; Health Surveillance Reports; Past medical History of those affected, First Aid room Registers; Any specialized

scan, Lab tests, X-Ray Reports from medicals labs/Clinics; Specialist Doctor's Advice and their reports on this issue related to WRULDs; The equipment user manual – To check the Safety/Health Warnings/usage instructions; Safety and Health at work regulations 1992; HSE Bulletins; Statement of Symptoms or health complaints told by workers; previous Medical/Clinical reports of workers on the same issues – to match with the current new workers symptoms and compare to analyze the issues.

Outline the main health and safety responsibilities of :

EMPLOYERS: The main health and safety responsibilities of an employer are to provide and maintain safe plant and equipment, to carry out risk assessments and to introduce safe systems of work. The employer should ensure safe use, storage, handling and transport of articles and substances (chemicals), provide and maintain a safe workplace – including safe access and egress. The employer has to provide a safe working environment with adequate welfare facilities such as rest areas, ablution (wash room) facilities, clean drinking water etc. with regard to work – Instruction, Information and supervision has to be provided by the employer to workers. To consult employees on health and safety issues. The employer should secure competent health and safety advice on critical issues related to the work and to co-operate with other employers at the workplace on health and safety matters.

WORKERS: The responsibilities of the workers include taking reasonable care of themselves and fellow workers and to refrain from misusing (no misuse or abuse of safety equipments, interfere with safety equipment) Equipment provided for their health and safety. They should co-operate with their employer in all matters aimed at promoting a positive safety culture across the organization. They should report all accidents – major as well as minor including the dangerous (hazardous) work Situations existing to their employer or minor nominated member of the management. They should comply with site rules, safe work practice, maintain and wear his safety appliances in correct working order – wear personal protective equipments suiting the work. They should not quarrel with other workers/ should not consume alcohol or drugs during work or immediately before working hours. They should attend the health and safety training programs when nominated.

Identify actions an enforcement authority might take if it finds that an employer is not fulfilling its responsibilities.

The possible actions that an enforcement authority might take if it finds that an employer is not meeting its responsibilities are giving advice or warning either verbally or in writing; requiring that an improvement is made within a given period of time – requiring the cessation of work (work stoppage) until improvements in health and safety are made, and taking formal legal proceedings such as persecution.

Outline why it is important that all persons in an organization are aware of their roles and responsibilities for health and safety.

It is important that all persons are aware of their roles and responsibilities for health and safety in an organization because this will assist in defining their individual responsibilities and will indicate the commitment and leadership of senior management. A clear delegation of duties will assist in sharing out

the health and safety workload, will ensure contributions from different levels and jobs, this will also help to set up clear lines of reporting and communication. The role awareness will also assist in defining individual competencies and training needs particularly for specific roles such as first aid and firefighting and making people aware of their own roles and responsibilities can increase their motivation and help to improve morale throughout the organization.

Outline how national governments can contribute towards good standards of health and safety within their territories.

National Governments have a major role to play in contributing towards good standards of health and safety, in which they shall enact regulations regarding health and safety taking cognizance from international law. For example, member states of United Nations are obliged to incorporate ILO Occupational Safety and Health Convention (C155) and Recommendation (R164) that has been ratified by them, into their national legislation. Health and Safety law reflects the expectation of society and hence can be more stringent in promoting good standards of health and safety.

Moreover, National Governments oversee the machinery that enforces the legal obligations placed upon employers. National Governments shall constitute enforcement agency with discretionary powers backed and supported by Nation's judiciary System. National Governments which support enforcement actions that may be punitive and deterrent would go a long way in uplifting and maintaining good Standards of Health and Safety.

Further, National Government shall encourage and support charitable organizations and professional bodies, whose Endeavour would be to propagate safety and provide assistance to Governments.

Element – 2

HSMS - POLICY

Outline the purpose of an organization's Health and safety policy.

It shows Management Commitment to Safety.

It gives the organization and Arrangements for controlling work related hazards.

It helps to develop procedures to protect people from injury and ill-health

In order to comply with legal requirements of the country (Law of the Land)

It also guides to manage health and safety on a cost effective basis.

Identify the three main sections of an Organizations health and safety policy and Outline the purpose of each.

The three major sections of an organization's Health and safety policy are

1. **Statement of intent:** It demonstrates management's commitment to health and safety, sets goals and objectives for the organization.
2. **Organization Section**: The purpose of this section is to allocate health and safety responsibilities within the company and to ensure effective delegating and reporting.
3. **Arrangements section:** This section sets out in detail the systems and procedures that show how the policy is to be implemented.

Give reasons why the health and safety policy should be signed by the most senior person in an organization, such as MD or CEO.

The signature of the most senior person in the organization would demonstrate management commitment. This would give authority to the policy. In addition, the person concerned (who signs) ultimately has the responsibility or the health and safety in the organization.

Outline the typical content of all health and safety arrangements section of a health and safety policy.

The issues that are typically included in the health and safety arrangement section of the policy are setting out in detail the specific systems and procedures – for carrying out risk assessments; for identifying and supplying health and safety information, Instructions and Training; for incident reporting, recording and investigating; for developing safe systems of work and permit-towork systems; for monitoring health and safety performance including auditing of system; arrangements for Consultation with workers on health and safety matters; arrangement for health and safety communication; arrangement for managing contractors and visitors; arrangement for health surveillance; procedure and arrangement to deal with likely emergencies

Outline circumstances that would require a health and safety policy to be reviewed.

Safety policy is a working document (not a static document); so, it is subject to review or revision whenever there is sufficient reason to believe/decide that it no longer remains valid or relevant. The occasions that would require a health and safety policy to be reviewed are in the event of Accidents / Incident, Changes in Organization, processes, Materials, Premises, Legislation, Work patterns, Risk Assessments, Following Accident Investigation, Enforcement Action, policy Review Annually, Professional Advice.

Outline why it is important for an organization to set health and safety Targets

They indicate TARGETS are specific performance requirements. The importance to an organization for setting targets is - It gives evidence of management commitment and motivates staff by giving them something tangible to aim for. It allows for continual improvement. They often evidence during the monitoring review and audit phrases of management system.

Identify health and safety targets that an organization could set.

Various Health and Safety Targets such as Reduction of accidents or achieve Zero Accidents, Reduce the sickness absences, Reduce the insurance claims, Reduce the occupational diseases, Increase the number

of people trained in health and safety, Improve audit scores, Improve near miss reporting of minor accidents etc. could be set by an organization.

Element – 3

HSMS - ORGANISING

Outline how the organization could reduce the risk to contractors before the project starts and during the project.

Before the project: Contractor selection based on previous experience, goodwill, policy content, risk assessments, H&S records, references to get the best contractor for work. Contractor should agree to the client's health and safety rules and regulations and show practically the commitment in his activities. Then appointing contractor coordinator; ensuring pre-contract meetings; progress meetings

During the project: Carrying out regular inspections to ensure H&S issues are addressed, corrected and followed, contractor to attend safety committee; To submit method statements for every activity undertaken; Accident/Incident reporting – in the approved form within the specified time limits; Firstly, Client set example and asks the contractor to follow safety procedures – leading by Example, Safety propaganda – signage and posters etc.; Checking the validity of plant documentation for Third party testing and inspection certificates and insurance; Training/Competency certificates of Contractors are checked for validity.

Outline factors that should be considered when assessing the health and safety competence of a contractor.

The factors that should be considered when assessing the health and safety competency of a contractor include contractor's previous experience with the type of work; the reputation of the amongst previous or current clients; the content and quality of the contractor's health and safety policy and risk assessments; the level of training and qualifications of staff (including those with health and safety responsibilities); accident/enforcement history; membership of accreditation or certification bodies; equipment maintenance and statuary examination records; and the detailed proposals (e.g. method statements ; Risk assessments) for the work to be carried out.

Two organizations share the same worksite. Outline how the organizations could work together to help ensure the workplace is safe and healthy.

In order to achieve god health and safety standards in the workplace, the two organizations could hold regular meetings, share information on health and safety related issues and risk assessments, avoid carrying out incompatible processes, prepare and agree joint site rues for the workplace – like Assembly Points and Smoking Areas (Shelters), can set up joint procedures for the management of visitors and contractors, agree on common procedures for the management of traffic & movement of vehicles, both organizations can carry out joint inspections and monitoring of the workplace, they can draw up joint

emergency procedures as well as agree a policy for the management of waste (bins, Storage, disposal, associated housekeeping issues). Both the organizations can also obtain on health and safety matters from a shared consultant (common consultant) to take joint decisions on critical H&S issues.

Give the meaning of the term 'Health and Safety Culture'

The Safety culture of an organization is the product of individual and group values, attitudes, competencies and patterns of behavior that determine the commitment to, and proficiency of an organizations Health and Safety performance.

It can be defined as the shared attitudes, values, beliefs and behavior relating to Health & Safety.

Identify factors relating to the 'individual' which might increase the risk to them while at work.

The factors relating to the individual that might increase the risk of accidents at work include Psychological factors of attitude, motivation, other factors such as age, lack of skill or experience, lack of familiarity (or possibly over familiarity) with the workplace, high stress levels, and health problems, medical conditions or physical disability/incapacity (including that brought about by alcohol or drugs).

Identify ways in which the health and safety culture of an organization might be improved.

Commitment and leadership from management – When this is visibly demonstrated outside the boardroom as behavior inside the boardroom is not witnessed by most of the workers.

Policies and Procedures – The Existence and quality of these and the way they might encourage good safety related behavior

Levels of Supervision – The presence and competence of supervision and the way that poor safety related behavior is dealt with.

Peer group pressure – Non-existence or not allowing to drive unsafe behaviors.

Consultation and Work involvement – The extent to which the workers are involved in the management of health & Safety issues and decision – making process.

Communication – Its effectiveness in conveying health and safety messages and information to work force including feedback arrangements to enable understanding by the receiver.

Resources – The availability of necessary equipment including personal protective equipment and allocation of time to provide training in health and safety.

Training – Identifying health and safety training needs and opportunities and how well they are met so as to develop and maintain competency.

Identify factors that could have contributed to the deterioration of the health and safety culture within the organization.

The factors that might cause the safety culture within an organization to decline include lack of effective communications; the perception of a growing blame culture; lack of leadership and commitment at senior level; lack of monitoring or a failure to implement remedial action; lack of consultation and employee involvement; a generally poor working environment; a high staff turnover leading to lack of continuity and loss of momentum in making safety improvements; and external influences such as a downturn in the economy, leading to job insecurity with the possibility of health and safety being seen as less of a priority.

Outline ways in which as organization could workers to be involved in setting and maintain high standards of health & Safety.

The various ways in which an organization could encourage workers to be involved in setting and maintaining high standard health and safety are – ways such as :

Involving workers in the risk assessments, accidents investigations and the development of safe systems and procedures; setting up suggestion schemes and acting on the ideas and recommendations put forward; organizing training courses and information programs on the benefits of good safety standards; supporting active involvement in safety committee meetings; introducing an effective two-way communication system; Introducing a system of award and reward to recognize achievement; and importantly ensuring that management set a good example for the workforce to follow.

Identify 4 types of emergency that would require an organization to have an emergency procedure.

The 4 types of emergency that would require an organization to have an emergency procedure are confined space emergency – To Correctly react and deal with the emergency, Fire Emergency – to safely evacuate the workers, do muster; Chemical spillage emergency – To respond correctly and effectively, Bomb threat emergency – To ensure evacuation, defusing of the bomb through bomb squads etc. Medical emergency – To Take care of the patient/victim correctly to preserve life and prevent deterioration till approved medical attention arrives.

(Or)

Four types of emergency in the workplace that could lead to the need to evacuate the workers are fine or explosion, the accidental release of toxic chemicals or gases, transport incidents, bomb alerts or other terrorist activities, weather related emergencies and earthquakes.

Outline why it is important to develop emergency procedure in the workplace.

The importance of developing workplace emergency procedures is to ensure the safe evacuations of workers in the event of an emergency, the need to comply with legal requirements; to be prepared for foreseeable emergencies to ensure the safety and protection of the workers including those dealing with the emergency and to assist the safe evacuation of persons including those with specific needs such as visitors and the disabled; to provide information on the action to be taken not only by workers but also by neighbors and others who might be affected by the emergencies such as in a shared of joint occupancy premises; to allocate specific responsibilities to certain workers in the event of an evacuation

being necessary; to be able to mitigate the effects of the adverse events and to restore the situation to normal; to ensure the procedures are made available to any relevant emergency services and to ensure business continuity.

Outline why visitors to workplace should be informed of an organization's emergency procedures

Visitors are not familiar of the site layout and hence would have difficulty for safe evacuation during emergency. The site at times may have shortfalls in designating escape routes would in fact increase their challenges. Further as the visitors are unaware of emergency arrangements and equipments at site, may tamper them and compromise their safety and that of site as well. Visitors may not recognize the emergency alerts and hence will not respond to. As they are unaware of likely emergencies and their respective actions, may put others and themselves in panic. In addition to moral responsibility of care, employers have legal obligations to ensure safety of visitors. So, it is the duty of the site management to instruct them regarding the emergency response procedure – Location of Exit routes, their assembly points, the alarm/siren/announcements to be listened attentively, carefully not casually; Do's and Don't's – e.g that is not to use lifts during fire emergency etc., are taught. Risky or hazard prone areas are to be told – where not to go, restricted smoking etc,.

Give reasons why it is important to use a variety of methods to communicate health and safety information in the workplace.

It is important to use a variety of method to communicate health and safety information in the workplace because people respond differently to difficult stimuli, and that variety prevents over-familiarization with one method and helps to reinforce a message. Other reasons include the need to overcome language barriers and the inability of some workers to read; the need to motivate, stimulate interest and gain involvement and feedback; the acceptance that different types of information require different methods of communications for example emergency signs; that the policy of the organization may require certain information to be in a specified format; and that on occasions evidence that the message was given may need to be kept.

Identify four types of health and safety information that could be displayed on a notice board within a workplace.

Information should include: Information for employees' poster; Health and Safety Policy; Evacuation procedures; first aid arrangements; contacts details for safety representatives; Targets for accident reduction.

Identify how the effectiveness of notice boards as a method of communicating health and safety information can be increased.

To maximize effect; Locate them at common/prominent area; Dedicate to health and safety only; Information displayed are relevant and current; Keep information in a neat orderly state; Make boards eye catching by use of color and graphics.

Identify the factors that should be considered when developing a program of health and safety training.

The factors that are to be considered when developing a training program would be type and function of organization; Hazard and risk profile of an organization (Ex. If tank cleaning is done, then training in safe working inside confined spaces); Accident history of the organization, that may indicate areas where the awareness is lacking or training is needed; Any Statutory training requirements (eg First aiders); Level of training previously provided, together with details of which employees have been trained and when; content and level of training with most appropriate format.

Finally, the recourses available are also to be taken into account to determine whether training will be in-house or by external providers.

Identify measures that might be used assess the effectiveness of health and safety training.

The measures that might be used assess the effectiveness of health and safety training would be initially by asking trainers/trainees to complete post-training evaluation form; when trainees return to work, following success indicators can be used to assess the effectiveness of training; Reduction in accident and absence rates; increased awareness of the topic covered shown by employees trained; Significant changes reported in behavior of the worker trained (Improved compliance to safe systems of work).

Identify checks that could be made to assess whether a person is competent.

A person is said to be competent when he possess a combination of knowledge, skill and experience. Hence competence can be assessed by verifying certification of training undergone, awareness shown by the individual on the subject matter, ability to carry out work effectively and efficiently (i.e. Safe completion of work without defects and also meeting required quality standards), and finally his number of years of experience in the relevant field and the exposure gained during the period. Other credentials such as his membership with professional body, participation in network groups including papers presented shall be considered.

Give reasons why it is important for an employer to keep a record of the training provided to each worker.

The reason for keeping record of the training provided to the worker include proof of employees' competence; Identify when refresher training needed; Review effectiveness of training; Assess progress against targets; Provide evidence in investigations; Provide evidence in legal actions.

Outline the health and safety roles and responsibilities of

(a) **Senior Managers or director** – Director or Senior managers are to ensure that the right health and safety policy is put in place appropriate to the size of the organization; adequate resources are allocated to establish, implement and maintain the health and safety management system. This includes provision of sufficient fund and competent personnel to deliver the policy. Other responsibilities are put in place; a senior manager is appointed with specific responsibility for health and safety; health and safety performance is reviewed on as regular basis to ensure that the objectives are being achieved and that the objectives and the measures in place remain valid.

(b) **Safety Officer** – Role to play by a person with primary health and safety responsibility are providing advice and guidance to management on health and Safety standards; supporting and assisting management in its effort to promote positive safety culture; monitoring halth and safety performance of the organization through safety inspections investigating causes of accident and analyzing data to identify trends and patterns; monitor and assist training by identifying need and opportunities for the dame; Checking the effectiveness of changes introduced on health and safety matters; active involvement in safety propaganda; liaise with external bodies such as enforcing authority, insurance company etc,.

(c) **Supervisors** – Supervisors are involved in the day-to-day operational running of the organization so are responsible for the health and safety standards within the operations under their control. They have to check the compliance with set health and safety standards; Responsible for safety and well-being of the staff lower down in the organizational chart; to ensure equipments and tools under their control are operationally safe; to oversee the welfare provisions of their departments; to implement safe system of work developed for their operations; to deliver safety talks to the work force under their control; to check the effectiveness of training received by the worker under their control; to ensure health and safety arrangements provided in their respective operations are functionally in force.

Explain the difference between 'consulting' and 'informing' workers of health and safety issues.

Consulting is a two way exchange of information between employer and worker that allows for worker to give feedback to management about their opinion and concerns (Example – introducing new PPE)

Informing refers to providing information to workers in a form that thay can understand and the employer does not have to take any feedback.

Outline factors that may determine the effectiveness of a safety committee

Factors that would determine the effectiveness of a safety committee include constituents of safety committee (key management personnel and worker's representatives); competency level of constituents (availability and access to specialist advice); holding regular meetings with maximum participation; influence the committee has on management's decision making process; provided with specific additional rights such as time off with pay for training.

A safety committee would be considered effective when they engage in activities such as development and monitoring of safe system of work, monitoring adequacy of health and safety communication, constant appraisal of effectiveness of training etc,.

Give the meaning of term perception.

The term perception refers to the way people interpret and make sense of the presented information in the given surrounding. With respect to safety, it means the ability of an individual understands of degree of risk.

Identify ways in which worker's perception of hazards might be improved.

Initially a survey shall be conducted to know why workers fall to perceive a particular risk, followed by resorting to certain measures such as increasing the awareness about the particular risk through training; highlighting the hazards through sign boards and warning strips to make it more conspicuous; addressing the environmental issues such as providing good lighting and visibility; removing distractions such as noise, excessive temperature etc.,; identifying and addressing individual's health issues such as known ailments to see or hear; controlling the use of substance that may skew a worker's perception.

Give the meaning of the term motivation.

The term motivation refers to a drive individual has to achieve a particular goal. In the context of safety. It relates to the zeal or willingness a worker express towards safe working practices.

Identify how an organization can motivate its workers to adopt safe working practices.

- By involving workers in risk assessment, accident investigation, developing safe work methods, so that worker's degree of understanding and risk perception improves thereby workers motivated to follow safe work practices.
- By arranging training sessions and ensuring participation of workers so as to increase their awareness about safety working practices.
- By recognizing and appreciating workers in public who follow safe practices so that it encourages and motivates others.
- By introducing schemes of awards and incentives.
- By management showing leadership and commitment, i.e., leading by example.
- By engaging in safety propaganda i.e, via posters, circulating safety alerts.
- By getting accompanied by workers during safety tours and inspection

Identify how induction training program for new workers can help to reduce the number of accidents in the workplace.

New workers are to be provided with induction training before being sent to a workplace, primarily to indicate the importance accorded to safety and to make them conversant with health and safety requirements of workplace. It gives an insight of hazard and risk profile present in the workplace and hence helps them to understand the importance of control measures needed to prevent the accident. During induction training, new workers understand the need to report uncontrolled hazard / near –miss incidents and thus prevent the accidents in future. Induction training helps workers to become more conscious of using mandatory PPE at workplace thus preventing injuries/accidents. They are made aware of the emergencies that may arise in the course of work and also procedures to tackle and mitigate the consequences. New workers are informed during induction training about the site specific rules (do's & dont's) and procedure to discipline violations that are aimed at reducing accidents.

Identify precautions that would need to be considered before welding work can commence?

The precautions that are to considered before welding work can commence would be obtaining a hot work permit , area inspection to ensure no burning material in the immediate vicinity and to cover the immovable objects with fire retardant material , inspection of adjacent rooms or spaces to rule out the possibility of fire spreading , inspection of area underneath incase of overhead welding and barricading the area down below with suitable warning signs ,arrangements for containing the sparks and bright light from arc with suitable curtains ,checks to ensure the adjacent work activities are compatible, availability of suitable extinguishing media including fire extinguishers, presence of a trained and equipped fire watch, presence of a safe means of access, availability of suitable ventilation arrangements to prevent build up of smoke ,checks to ensure the condition of wielding equipment, provision and use of appropriate PPE including wielding shield with appropriate filter glass and use of competent welders to carry out the work. .

Other precautions required when work is carried out inside a confined space would be isolation of energy sources and dissipation of stored energy , gas testing by a competent person using calibrated equipment, provision of local exhaust ventilation and necessary communication and emergency rescue arrangements.

Element - 4

HSMS – PLANNING

Give the meaning of the term – HAZARD

Hazard can be defined as anything or something with the potential to cause harm. Hazard may be Physical, Chemical, Biological, Ergonomial or Psychological in nature. (Ex. Slips, Trips & Falls, Asbestos, Stress, etc,.)

RISK

Risk is the combination of likelihood that the harm will occur and severity of its outcome. So, Risk = [Likelihood of harm * Severity harm]

(Ex. Death due to electric shock, Hearing loss due to Excessive noise, etc,.)

Identify four means of hazard identification that may be used in the workplace

Hazard identification is an important step in Risk Assessment process and various means of identifying hazards in workplace include:

Workplace inspection - Observation of workplace, work equipment and activities within it.

Interacting with workforce - To consult and involve workers to get their ideas.

Document verification – Plant registers, Manufacturer's safety data sheet are few among others that can be verified.

Accident / ill-health record – Highlights the area of weakness.

Task analysis – To analyze the task and steps within to identify the hazards in each step.

Outline the key stages of a risk assessment process

The initial stage in any assessment is to define the task and identify both the hazards associated with the task and the classes of person at risk of harm (who may be harmed and how ?). The next stage is to evaluate the risks arising from the hazards, to assess the effectiveness of existing controls and to decide whether additional measures are required to eliminate or control the risks. Finally, the findlings of the assessment need to be recorded and communicated, and a timescale set for its review and possible revision. Other occasions such as changes to work methods, materials, process, premises, organizational changes, legislation etc., will also lead to the review/revision of the risk assessment.

(or)

There are five key stages to a risk assessment suggested by the HSE as follows:

STAGE 1 : Hazard Identification which involves looking at significant hazards, which could result in serious harm to people. Trivial hazards should be ignored. This will involve touring the workplace concerned looking for the hazards in consultation with workers themselves and also reviewing any accidents, ill health or incidents that have occurred.

STAGE 2 : is to identify the person who could be harmed – This may be employees, visitors, contactors, neighbors or even the general public. Special groups at risk, like young persons, nursing or expectant mothers and people with a disability should also be identified.

STAGE 3 is the evaluation of the risks and deciding if existing precautions or control measures are adequate. The purpose is to reduce all residual risks after controls have been put it to as low as is reasonably practicable. It is usual to have a qualitative approach and rank risks as high, medium or low after looking at the severity of likely harm and the likelihood of it happening. A simple risk matrix can be used to get a level of risk. The team should then consider whether the existing controls are adequate and meet any guidance or legal standards using the hierarchy of controls and the general principles of prevention set out in the management regulations.

STAGE 4 of the risk assessment is to record the significant findings which must be done if there are five or more people employed. The findings should include any action that is necessary to reduce risks and improve existing controls – Preferably set against a time scale. The information contained in the risk assessment must be disseminated to employees and discussed at the next health and safety committee meeting.

STAGE 5 is a time scale set to review and possibly revise the assessment to keep it valid and current, which must also be done if there are significant changes in the workplace or the equipment and materials being used, Legislation changes, work patters, after any major accidents/incidents and specialist advice.

Outline reasons why young persons may be at a higher risk of injury in a workplace.

Young workers are at higher risk of injury due to lack of experience, training and knowledge of work place hazards and hence will have poor perception of risk. Young workers are also enthusiastic and adventurous by instinct. Moreover, their body would not have developed fully and are at higher risk of injury when employed in certain work activities such as manual handling. Young workers are not habitual to work for long hours and are easily influenced by peer.

Explain the criteria which must be met assessment to be 'suitable and sufficient'

The criteria that must be met for a risk assessment to be deemed suitable and sufficient, it should identify the significant risks arising out of the work activity, it should identify and priorities the measures that need to be taken to comply with the relevant statutory provisions, it should be appropriate to be a nature of the work and, finally ,it should be such that it remains valid for a reasonable period of time.

Outline factors that an employer should take into account when selecting individuals to assist in carrying out a risk assessment.

The most important factor is the competence and experience of the individuals in hazard identification and risk assessment. some training in these areas should offer evidence of the required competence. They should be experienced in the process are activity under assessment and have technical knowledge of any plant or equipment used. They should be knowledge of any relevant standards, HSE guidance and regulation relating to the activity or process

They must be keep and committed but also aware of their own limitation. They need good communication skills and are able to write interesting and accurate reports based on evidence and the details found in health and safety standards, codes of practice, regulations and guidance. Some IT skills would also be advantageous. Finally, the views of their immediate supervisor should be sought before they are selected as team member.

Outline THREE reasons for reviewing a risk assessment.

The various circumstances that may require a review of the risk assessment at a later data include circumstances such as change to work processes or method; introduction of new plant; changes in the scale of production; the availability of new information concerning hazardous substances or processes; accidents or occurrences of ill-health; results of monitoring, including inspections, audits and health surveillance; change in legislation; change affecting personnel(to take particular account of disablement ,pregnancy and youth);and routinely after the passage of a reasonable interval of time.

Give TWO reasons why visitors to a workplace might be at a greater risk of injury than workers.

The reasons why visitors to a workplace might be at greater risk of injury than workers are their unfamiliarity with the processes carried out at the workplace, the hazards they present and their associated risk and a fact that they may not have been issued with personal protection equipment; their lack of knowledge of the site layout and the fact that pedestrian routes might be inadequate and

unsigned; their unfamiliarity with the emergency procedures and their vulnerability particularly if they were disabled, very young or had language problems.

Identify precautions that could be taken to reduce the risk of injury to visitors to a workplace.(or)identify precautions that could be taken to ensure the health and safety of visitors to a workplace.

Precautions that could be taken to ensure the health and safety of visitors to a workplace are measures such as visitor identification, for example, by the issue of badges with a routine for signing in and out; prior notification to those members of staff to be involved in the visit; the provision of information to the visitors in suitable languages on hazards and emergency procedures; an explanation of specific site rules, for example, restricted areas and the wearing of personal protection equipment; the clear marking of pedestrian routes and the need for visitors to be escorted by a member of management or supervisory staff.

Outline with examples, the general hierarchy that should be applied in order to control health and safety risks in the workplace.

Risk control Hierarchy refers to a list of measures designed to control risks which are considered in order of importance, effectiveness or priority or measures.

The general hierarchy that should be applied with respect to controlling health and safety risks in the workplace include the possibility of eliminating the risks either by designing them out or changing the process. The next step would be the reduction of the risks by, for example, the substitution of hazardous substances with others which were less hazardous. if this were not possible, then isolation would have to be considered using enclosures, barriers or worker segregation. The application of engineering controls such as guarding, the provision of local exhaust ventilation system, the use of reduced voltage system or residual current devices would follow as would management controls such as safe system of work, training, job rotation and supervision with the final control measure being the provision of personal protective equipment such as ear defenders or respiratory protective equipment.

Outline why it is important to involve workers in the development of safe system of work.

When developing a safe system of work, if workers are involved, it will help to improve their perception of hazard and risk association with it. moreover, workers may have more exposure and hand-on experience with machineries and the workplace scenarios, hence may provide more workable solution/ control measures, implementing their ideas, will create a sense of ownership and motivate them to comply with. hence there will be less compliance concerns.

Outline why it is important for safe system of work to be in writing.

Safe system of work (SSW) needs to be developed for such activities where hazard cannot be eliminated or physically separated from workers. Thus is addition to technical controls, safe work methods will be determined in written. Having SSW in writing will help to maintain record which can be used in training workers on SSW.Keeping SSW in writing will allow for future reference and revision as and when

required. Extracts of SSW / Standard Operating Procedures in writing can be displayed on work station to constantly remind a worker. Written SSW would enable for appraisal in safety to committee meeting, and will also help for audit purpose.

Outline factors that should be considered when developing a safe system of work.

After identifying the task, the factors that should be considered when developing a safe system of work include:

People-Number of people working on the task, involvement of vulnerable persons, level of competence or technicals ability they should have including ant training requirements.

Equipment –plant or equipment worked on, tools /equipment required for carrying out work, requirement of safety equipment, hazards associated with the job and equipment.

Materials –materials used or handled during job and their requirement to be safe both during raw and finished stage, appropriate quality standards, waste disposal requirements.

Environment –effective control of space ,lighting ,temperature and ventilation, safe levels of noise and vibration, effective control of dust, fumes, radiation, chemical and biological hazards, means of access and egress ,good standards of welfare amenity provision-sanitation, hand washing, showers, clothing storages, catering, drinking water and first Aid.

Identify TWO examples of confined space that may be found within a workplace.

A confined space can be defined as "any such place such as a chamber ,tank, silo, pit, well, pipe, sewer or similar which by virtue of its enclosed nature may have limited openings for entry &exit, presence of hazardous atmosphere, and obviously such spaces are not designed for human occupancy".

Petroleum storages tanks-That may likely to contain flammable vapour even when emptied.(flammable atmosphere)

Deep trenches-That may likely to have accumulated toxic gases, which are denser than air or the atmosphere present, may be deficient in oxygen due to poor ventilation.

Describe the main factors to consider when preparing a safe system of work for entry into a confined space.

Initially, factors such as storage content in the confined space, activity to be carried out after emptying them and condition of surrounding environment are to be considered to determine the foreseeable hazards.

When hazards are identified, to develop a safe work method, factors such as isolation of energy services to confined space – closing down valves / blanking, electrical isolation etc., (Lockout – Tagout would be required); dissipating stored energy that includes means of emptying the contents – draining down/ purging with insert gas etc.; atmospheric testing to ensure it is not hazardous – important issues would

be competency of the person carrying out the test, calibration of the gas detector and frequency of testing; safe means of access and egress; Ventilation and lighting arrangements – electrical equipments used shall be intrinsically safe; Competent staff – trained in foreseeing / identifying emergency situations and act accordingly (Emergency Communication, self rescue etc.,); Personal Protective Equipment (PPE) – Provision and training on usage of PPE such as Safety harness, respirators etc.,; Emergency arrangements – appointing hole watch with necessary arrangements for communication with confined space entrants and with emergency control center as well, standby retrieval system etc.,

Need for a permit – to – work, submission of method statement and risk assessment are other relevant factors to be considered.

Outline the Limitations of using PPE (or) Give reasons why PPE should be relevant factors to be considered only after other control measures.

The reasons are PPE does not remove the Hazard, hence it is fails, it fails to danger. PPE protects the wearer only and relies on human behavior to remember; may not protect if not fitted correctly or Wrong PPE selected; may not be comfortable and may interfere with the wearer's ability to do the job; may increase overall risk by impairing the senses (e.g. goggles that mist up, hearing protection that masks fire alarms); may not be compatible with other items worn; may be contaminated if not stored correctly. People often do not like wearing PPE, so it may not be worn. PPE may be sometimes more expensive than addressing the hazard at source.

Give the meaning of the term 'permit – to - work'.

Permit – to – work (PTW) system is a formal, documented and planned procedure and the facts that it is designed to protect personnel working in hazardous areas. There are many type of work situations for which a permit might be required like confined space entry, Hot work, etc.,

A documented control system requiring written confirmation that certain actions have been carried out eliminate or control risks, be done high risk activity is carried out.

Identify three types of activity that may require a permit-to-work, and outline the reasons why in each case.

(a) Entry into confined, spaces, 'hot work', work on electrical equipment (particularly live working and/or high voltage system), Excavation work, working at height and specialist maintenance work (for instance, on process plant). Confined spaces are deadly spaces such as boilers, vaults, tanks etc., where there are hazards such as oxygen depletion or enrichment possibility causing asphyxiation, as well as flammable gases like carbon monoxide or hydrogen sulphide, as well as flammable gases may be present leading to risk of explosion or fire – so, a PTW will check all these conditions and ensure that the risks are adequately controlled.

(b) In the excavation work – deep excavations of more than 1.2m deep – similar confined space hazard situations can be expected – putting the personnel in danger, plus there is a serious risk of getting buried under the sand due to cave-in or collapse which may lead to fatalities or

serious consequences. In addition, damage to underground services – buried utilities which may pose additional risks such as explosion due to rupture of a damaged gas pipeline or HT cable damage may lead to electrocution, ruptured water line may lead to flooding ec.

(c) Working on and around High voltage Equipment or power lines poses serious threat of electrocution and severe consequences thereof. – Therefore, PTW is required to overcome such situation where adequate precautions are tested and listed, checked and ensured before starts of work, monitored during work, and the area rendered safe after the work.

(d) Hot work if done unchecked or unmonitored, may lead to fire and explosion thereof due of the flying hot molten slags and debris or heating up a particular area or bulkhead where heat may transmit to other remote objects due to convention or radiation, as well as those in contact with due to conduction process leading to fire or explosion. So, a PTW is needed to check and control the risk.

Identify four categories of workplace safety signs and give as example of each

Safety signs combine shape, color and pictogram to convey specific health and safety information or instructions. The standard safety signs are divided into following categories.

PROHIBITION – Directed at stopping dangerous behavior such as 'no smoking'. The signs are circular carrying a black pictogram in white background, superimposed with a red circle (border) and red diagonal cross bar.

WARNING – Cautions people of a particular hazard such as 'Toxic'. The signs are triangular with a black pictogram in yellow background with a black border.

MANDATORY – Instruct people of take specific action, often relating to wearing personal protective equipment such as 'Hard hats much be worn'. They are circular with a white pictogram in sky blue background.

SAFE CONDITION – Identify safe behavior or places of safety such as 'First aid station' , 'Emergency Escape route'. They are rectangular or square with a white pictogram in a green background.

Give the meaning of the term Safe System of Work.

A Safe system of work is a formal procedure based on a systematic examination of work in order to identify the hazards and define methods of working which eliminate those hazards or minimize the risks associated with them.

A step-by-step procedure for carrying out task safely, taking into account the risks, the controls, the equipments needed, the environment emergencies, competence & skills required by the worker.

Outline sources of information that could be consulted when developing safe system of work.

The information that could be consulted when developing safe system of work comes from two principle sources – those internal and those external of the organization.

Internal information source include accident records; medical records; sickness absenteeism records; risk assessments; maintenance reports; safety representative inspection reports; audit reports; safety meeting minutes.

External source of information include national legislation (Legal requirements); National code of practice and guidance (ACop); Publications from regulatory bodies (HSG and INDG); International law (ILO Conventions and Recommendations); Manufacturer's operating instructions; Material safety data sheet from manufacturer; Trade association such as oil & gas producers association (OGP); Safety journals and magazines.

Outline what is meant by the following types of controls within a safe system of work.

(a) Technical – Technical or Engineering controls are applied directly to the hazard in order to minimize the risk. This may involve fencing or barriers to isolate workers from the hazard or use of fail-safe devices that de-energies the equipment when there is a fault.
(b) Behavioral – Behavioral controls are how the worker needs to act in relation to hazard. They include good practices in the work place such as good housekeeping, use of PPE, etc.,
(c) Procedural – Procedural controls include the way in which work should be carried out in relation to hazard. They will specify the sequences of action in a tack (Standard Operating Procedure), safety checks which have to be taken which will relate to correct operation of technical controls.

Identify factors to be considered to help reduce risks to workers required to work alone.

Nature of work - Certain high risk activities shall not be undertaken by lone working (Example – working inside confined spaces).

Remote supervision – possible means of remote supervision such as CCTV Survillance.

Communication – Means of communication such as radio sets, mobile phones.

Logging in location – Touch base and log the worker's location who keeps moving, or using vehicle tracking system etc,.

Means of raising alarm – providing call points or other alarm raising arrangement to alert the control personnel and also to pin point the lone worker.

Emergency Arrangement – developing procedures to deal with emergencies including first-aid provision

Training – Providing training to lone workers on above.

Element - 5

HSMS – MEASURING, AUDIT & REVIEW

Outline the meaning of terms:

ACTIVE (PROACTIVE) MONITORING – Means checking to ensure that standards are met and that the workplace is safe and free of health risks before any untoward event takes place. For Example – Safety inspections, Safety audits, Safety surveys, Safety tours, Safety sampling, Health surveillance, etc,.

REACTIVE MONITORING – means measuring safety performance by reference to incidents including accidents, Ill-health cases, sickness absences, civil claims and enforcement actions which in fact refers to measuring the number of incident types and frequency rates.

Outline two proactive monitoring methods that can be used when assessing an organization's health and safety performance

Proactive methods that can be used when assessing an organization's health and safety performance would be: audits involving comprehensive and independently executed examinations of all aspects of an organization's health and safety performance against stated objectives; inspections carried out on a regular basis which identify existing conditions and compare them with agreed performance objectives; safety surveys focusing on a particular activity such as manual handling, training programmes and workers attitude towards safety; sampling where specific areas of occupational health and safety are targeted; tours involving unscheduled workplace inspections to check on issues such as wearing of Personal protective equipment and housekeeping; benchmarking where an organization's performance in certain areas is compared with that of other organizations with similar processes and risks, and health or medical surveillance using techniques such as audiometry and blood or urine analysis.

Outline the key features of :

HEALTH & SAFETY INSPECTION:

A safety inspection involves straightforward observation of a workplace and/or the activities or equipment within it. A safety inspection is usually carried out by a manager, employee representative and Safety advisor and is often aided by the use of a checklist. It may be carried out routinely and has the aim of identifying hazards & assessing the use and effectiveness of control measures. Type of inspection, frequency of inspection and competence are important features and requirements of safety inspection.

HEALTH & SAFETY AUDIT:

A Safety audit is a systematic, critical examination of an organization's safety management systems and procedures. It is a lengthy process formally carried out by a trained auditor, often someone from outside the organization looking at the strengths and weaknesses of the organization. It may also be carried out internally. It is a structured way of assessing the health and safety performance of an organization by

supplying answers to a series of questions and often involves a scoring system so that improvements can be made.

An audit plan will be prepared indicating the scope of audit, area of audit and extent of audit. Auditors look for objective evidences by verifying documents, interacting with staff and by sampling the workplace (Physical observation).

Outline the role of workplace health and safety inspections

A workplace inspection is a general examination of health and safety performance at particular point in time. As well as demonstrating management commitment, its role is to identify workplace hazards; to implement immediate corrective action where this is possible; to ensure compliance with the law and with laid down standards; to recommend improvements and further controls when these are seen to be necessary; to observe employee behavior, for example, in the use of personal protective equipment; to listen to and consult with workers on health and safety issues; to reviews previous findings and recommendations and to provide findings and recommendations and to provide a summary report to individual managers on standards in their areas of control.

Give two strengths of using checklist when carrying out an inspection

Using a checklist to complete a health and safety inspection of a workplace enables prior preparation and planning to be made so that the inspection is structured and systematic; reduces the chance that important areas or issues might be missed; provides an immediate record of findings; ensures a consistent approach by those carrying out the inspections; is easily adapted or customized for different areas; and provide an easy method for comparison and audit.

Give two weakness of using a checklist when carrying out an inspection

The weaknesses of using such a system are that over reliance on a checklist may lead to a blinkered approach by 'inspectors' with the possibility that significant risks might be missed; that the checklist may not be reviewed and updated to account for changes to work processes or equipment; that there is a danger that inspections become routine with no follow up questions being asked; that the system is too objective and restrictive with no scope for peripheral issues to be considered; that untrained persons might be tempted to conduct inspections and that the procedure is subject to human errors and/or abuse.

Outline factors that would determine the frequency with which health and safety inspections should be undertaken in a workplace.

Statutory requirements may dictate an inspection frequency (for Example. Lifting equipments and accessories are inspected once in every six months in compliance with local statutes). The activities carried out and the level of risk perceived will also determine the inspection intervals. Manufacturers may make recommendations as to inspection frequency and content.

Other factors would be how well established the process is, For example new equipment may require more frequent monitoring; Risk assessments may suggest inspection as a control measure; The presence of vulnerable workers, for example young and inexperienced workers; finding from previous inspections which may suggest compliance concerns; Accident history and results of investigations; Enforcement authorities may recommend inspections and last but not the least whether workers have voiced their concerns.

A serious accident has occurred. During the investigation it is found that an inspection of the work site had taken place before the accident. Outline possible reasons why the inspection did no lead to an unsafe condition being corrected

The possible reasons why the inspection did not lead to an unsafe condition being corrected would be the fact that inspection is only a snapshot in time and some hazards are not visible while some hazards are not present during the inspections and may occur later in the process. Inspections are usually carried with the aid of check list which lead to a 'Blinkered' (Inflexible) approach (One fails to see beyond checklist). Unsafe practices leading to unsafe conditions may not occur during the inspections if the employees know the inspection is taking place.

Other reasons would be the personnel who undertook the inspection were incompetent or the inspection procedure may lead to Human error or abuse (allowing a incompetent person to carry out inspection). Inspections were undertaken just as a routine but no follow-up questions asked could also be a reason for the unsafe condition to prevail and remain un-rectified even that would have been identified during inspection.

Identify documentation that is likely to be inspected a health and safety audit.

Health and Safety policy – Whether Statement of intent is displayed, communicated to all concerned and objectives are known and targets are being set and revised.

Risk assessments and safe systems of work – are they suitable, sufficient and being reviewed as and when necessary. Whether safe systems of work are developed for high risk activities and where hazard can't be physically separated from workers that includes lock out and Tag out systems, Permit-to-work system, etc,.

Training Records – Whether training needs have been identified, training matrix prepared and training including refresher training is scheduled, conducted and effective.

Minutes of safety committee Meetings – Are the meetings held at regular intervals and the contents of agenda and how they are being dealt with.

Maintenance records and details of failure – Maintenance Strategy that is being followed is suitable or would it require a review.

Records of health and safety monitoring activities – Such as tours, inspections, surveys, health surveillance records, etc,.

Accident investigation reports and data including near miss information – Do they indicate Trends and patterns, how well the remedial action plan is implemented.

Emergency Arrangements – Are they in place and their efficacy being checked through mock drills.

Output from regulators visits – Reports and notices for improvements, enforcement actions etc,.

Inspection reports from insurance companies – Do they voice concern.

Records of worker complaints – Means of reporting, procedure followed for redressal etc,.

Explain how the findings of an Audit may be used to improve health and safety performance.

Audit findings can help to identify the conformance / non-conformance of management systems to comply with set standards, improve the system, and learn from management system failures. We can identify weaknesses in the procedures/ management system to review and take measures to correct them, Identify sub-standards H & S practices, identify Trends, compare actual measures, Make decisions on suitable remedial measures, set priorities and establish realistic timescales, Assess compliance with legal requirements, provide information to Board, Committees etc.

Outline reasons why an organization should review its health and safety performance.

Reasons for reviewing health and safety performance would be mainly to check whether health and safety aims and objectives are achieved.

Other reasons are such as: to identify substandard health and safety practices and conditions; to identify trends in relation to different types of incidents, or incidents in general by analysis of relevant incident data; to compare actual performance with previously set targets; to 'benchmark' the organization's performance against that of similar organizations or an industry norm; to identify whether control measures are in use, to assess their effectiveness and to be able to make decisions on appropriate remedial measures for any deficiencies identified; to identify any new or changed risks; to assess compliance with legal requirements and accepted national/international standards; to be able to provide a Board of Directors or safety committee with relevant information; to boost morale and motivate the workforce; and ultimately because monitoring and review is a vital component of any safety management system and is essential if the system is externally accredited and audited by a specific body.

A worker has been seriously injured in an accident at work. Outline the immediate and long term actions that should be taken.

Accident at work require immediate and long term actions to be taken such as: isolating services and making the area safe; administrating first aid treatment and contacting the emergency services; informing the next of kin and offering counseling and support; notifying the regulatory authority if appropriate; collecting initial evidence such as photographs and sketches and the names of witness; setting up the accident investigation team and investigating the accident; determining the root and

underlying causes of the accident; making and implementing recommendations to prevent a recurrence of the accident and ensuring feedback is provided to the workforce; collecting evidence to be used in any possible litigation following the accident and managing the provision of information to the media.

Outline reasons why it is important for an organization to investigate 'near miss' incidents.

Nearmiss investigation will prevent future accidents. Today's Nearmiss is likely to be the future Accidents. Greater Number of nearmissess occurs than accidents – meaning more learning opportunities to improve health and safety. In nearmiss we can learn useful and purposeful lessons without loss. When nearmisses are investigated and corrective actions put in place, this will send positive signals amongst workers which in turn promote positive morale amongst them leading to motivations, team spirit and sense of belongingness, good for any company.

Dangerous occurrences are even more critical – It is a high potential Nearmiss with a serious injury potential, hence a higher level of investigation is needed, where required, experts can be called up from the third party, governmental body etc., to investigate the matter and take necessary remedial action.

Outline why an organization should have a system for the internal reporting of accidents. (or) Outline four reasons why accidents should be reported and recorded within a workplace.

An organization should have a system of internal reporting to facilitate workers to report accidents so that they are investigated to find the root cause and prevent recurrence: To meet the legal requirement; to estimate losses. The accident report shows patterns and trends; reporting helps to identify weaknesses in procedures; priorities safety measures; Identify areas for improvement; set targets for reduction.

Identify why workers might not report accidents at work.

Accidents at work might not be reported by workers due to ignorance of procedures; Peer pressure (fellow worker's pressure – not to report); Preserve accident record(if accident is reported and recorded it will be a black mark/blemish); Over complicated procedures – Lengthy procedures / Disturbed frequently to attend the investigation process as witness; Lack of management responses – No action taken by management on to the earlier / previous reporting; Avoid receiving First aid/ Medical treatments; Management retribution – Blame culture (pay cut / de-promoted / sent out of job if accident done by one is reported).

Outline the benefits to an employer of conducting accident investigations.

Accident investigations will identify the immediate and root causes which in turn benefit an employer to identify weakness in procedures, priorities safety measures and identify areas for improvement. Remedial actions thus undertaken would enable to prevent recurrence of such accidents in future and save costs. Accident investigations can help to compile statics and an employer is benefitted as they are used to identify trends and patterns and give the opportunity for remedial action; to enable

improvement in resource allocation; to make comparisons with others; to inform and stimulate discussion at joint consultation meetings with the workforce; to identify the costs of accidents and to set new targets.

Accident investigations would in fact show the value and importance accorded towards safety by the management which will help to improve staff morale. This would indirectly benefit employers as workers with their morale high and motivated would in fact be more productive.

Give the meaning of the term Benchmarking

The term benchmarking refers to comparison of health and safety performance of an organization with similar organization in the industry. This provides indication of how well the organization is performing with such similar companies.

Give two examples of health and safety information that can be used for benchmarking.

Accident rates – For example, comparison of accident incidence rate of an organization with national industry rate.

Safe Man-hours – For example, Manhours completed without any loss time injury

Training – Number of trained personnel present in the organization.

Give the meaning of the term "Health and Safety Audit"

It is the structured process of collecting independent information on the effectiveness, efficiency and reliability of total health and safety management system and drawing up plans for corrective actions.

Outline the issues that need to be considered at the planning stage of the audit

The issues to be considered at the planning stage of the audit include defining the scope of audit (Health, Safety, Environment, Security, etc,.); area of audit (single site or many sites); extent of audit (comprehensive or restricted to specific aspects of management system); personnel involve in audit(trained auditors – external or internal, persons coordinating, persons to interact); preparing audit schedules (date, time of visit, location); Documents that may be consulted prior to audit (policy etc.)

Identify two methods of gathering information during an audit

Auditors look for objective evidences during audit by following method:

Verifying Documents – Policy and procedures, records and reports maintained.

Interviews – Interacting with people concerned to check awareness of their roles and responsibility

Observations – Physical sampling of workplace.