Assessment Guide

Basics of Risk Analysis and Accident Prevention Methods

NSQF Level – 4

Sector: Cross Sectoral

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

MC Code: SSD/M0102

Version: 1.0

Table of Content

Micro Credentials Structure

To achieve full certification as Basics of Risk Analysis and Accident Prevention Methods, trainees must complete all four units and pass assessments. The assessments will comprise of theory & practical tests.

Sl. no	Unit No.	Title	Assessment method
001	Module 1	Create an Accident Prevention Plan	The assessment will be made for the competencies required by the trainee on skills, knowledge, understanding & identifying of potential accident risks and developing a comprehensive accident prevention plan tailored to workplace conditions. The assessment will be based on theory, viva- voice or practical.
002	Module 2	Evaluate the preparedness of employees and deliver training sessions accordingly.	The assessment will be made for the competencies required by the trainee on skills, knowledge & understanding of evaluating the preparedness of employees in relation to workplace safety, health, and operational procedures. The assessment will be based on theory, viva- voice or practical.
003	Module 3	Conduct a regular evaluation of workplace risks and potential safety hazards & provide employees with protective gear.	The assessment will be made for the competencies required by the trainee on skills, knowledge & understanding of conducting regular evaluations of workplace risks and potential safety hazards. The assessment will be based on theory, viva-voice or practical.

004	Module 4	Perform regular inspections and routine maintenance. Make certain that the appropriate signage is prominently posted throughout the workplace	The assessment will be made for the competencies required by the trainee on skills, knowledge & understanding of performing regular workplace inspections and conducting routine maintenance activities to ensure a safe working environment. The assessment will be based on theory, viva- voice or practical.

Guidance for assessors

This Micro Credential provides the performance criteria, skills and knowledge required to perform for the job role of Basics of Risk Analysis & Accident Prevention Methods at NSQF Level 4. The role is referred to as 'Basics of Risk Analysis & Accident Prevention Methods.'

Brief MC description: The MC on Basics of Risk Analysis & Accident Prevention Methods describes the numerous measures considered as relevant for accident prevention, e.g. design and use of more safe equipment and technologies or replacing dangerous equipment and products by non-dangerous or less dangerous ones, improvement of working environment, use and maintenance of personal protective equipment, management and staff training, improvement of communication.

Personal attributes: He/She should be physically & mentally fit and should be able to provide design advice on the suitability of specialized scaffolds to meet the health and safety requirements regarding design and technical advice on scaffolding works.

Introduction to assessments:

The assessment will be made based on the competencies required by the trainees to perform the job role of Basics of Risk Analysis & Accident Prevention Methods. The assessment will be based on understanding, practical demonstration and on the job training as defined in the performance criteria & practical skill defined in the Micro Credential. The trainees will be required to complete a number of

assignments to show their skills & understanding of the subject through theory, demonstration and practical performances.

Grading and pass percentage

1. The assessment consists of two categories:
    a. Practical Assessment – to assess the practical performance skills.
    b. Theory Assessment – to assess knowledge & understanding of the domain.
2. The weightage of the assessment will be:
    a. Practical Assessment – 50%
    b. Theory Assessment – 50%
3. Performance Criteria (PC) has been assigned marks proportional to its importance. Proportion of marks for Theory and Practical has been marked PC wise.
4. Questions on practical & theory will be formed in such a way as to provide an outcome on maximum Performance Criteria and in proportional way within the MC.
5. The assessment for the theory part will be based on written questions (short questions, multiple choice & viva, or a combination of them) created/approved by the SSDF.
6. The assessment for the practical part will be based on practical conducted for trainees. In case of remote/on-line assessments, the practical's can be carried through proctors or practical questions formulated based on pictorially represented logical questions (based on pictures of practical & logical steps) created/approved by the SSDF.
7. The certificate on MC will be issued to successful candidates who score 50% or more than 50%
8. Any candidate can ask for re-assessment in the MC to improve his/her performance within three months from the date of publication of the results and after payment of the assessment fee. But if any candidate wants re-assessment after three months from the date of publication of results, he/she will have to appear in the micro credential.

2.1 Performance/Skill Assessments

The performance/skill assessment will be conducted through demonstration/practical.

Module 1: Create an Accident Prevention Plan

The trainee should demonstrate the ability to develop a comprehensive accident prevention plan by identifying accident-prone tasks, analyzing past incidents for root causes, and assessing existing workplace conditions and practices. They must establish preventive strategies that include hazard control measures, safety protocols, and training programs aligned with legal and organizational standards.

Module 2: Evaluate the preparedness of employees and deliver training sessions accordingly

The trainee should demonstrate the ability to evaluate employee preparedness by identifying skill gaps, assessing knowledge of safety protocols, and analyzing performance data through observation and feedback. They must design and deliver targeted training sessions using appropriate instructional methods and materials tailored to workforce needs.

Module 3: Conduct a regular evaluation of workplace risks and potential safety hazards & provide employees with protective gear

The trainee should demonstrate the ability to conduct regular evaluations of workplace risks by identifying potential safety hazards, assessing their severity and likelihood, and documenting findings in accordance with safety protocols. They must recommend and implement appropriate control measures, ensure timely provision and proper use of personal protective equipment (PPE), and verify that all gear meets safety standards.

Module 4: Perform regular inspections and routine maintenance. Make certain that the appropriate signage is prominently posted throughout the workplace

The trainee should demonstrate the ability to perform regular workplace inspections and carry out routine maintenance to identify and address potential safety or operational issues. They must ensure that all equipment and infrastructure are functioning properly and take corrective actions where needed.

Performance/Skill Assessments

The assessment will be conducted in a simulated working environment. Due to this fact, the assessors must note that the naturally occurring evidence of competence is unavailable or infrequent. Simulation must be undertaken in a Realistic Working Environment which provides an environment that replicates the key characteristics of the workplace in which the skill to be assessed is normally employed.

Scheduling the practical observations is flexible but to retain integrity of the assessment, they should be conducted as closely as possible to the written assessments.

Trainees are not permitted to use the observation checklist to work when completing the practical tasks but may familiarize themselves with it prior to an assessment.
It will be beneficial to take trainees through what is required in the practical assessments and the way in which each part will be graded. Trainees should have an opportunity to familiarize themselves with the way the tasks are graded.

Trainees may refer to their faculty for guidance on parts of the practical assignments only, though they should be aware that, especially for the practical assessments, the amount of guidance and support they are given may be reflected in the feedback and performance.

Knowledge Assessment

Synoptic test is an MCQ (Multiple Choice Question) test to assess the underpinning knowledge. The synoptic MCQ tests are externally set and externally marked.

This test is to be taken by the trainee after completion of all the units under controlled and invigilated conditions as closed-book test under the supervision of an assessor. Trainees can only achieve whole marks; half marks for partially answered questions are not permitted. Selection of two or more options will be marked as wrong.

The answers should be marked by pen only. The test may be conducted by the assessor in the oral mode, if required, considering the lack of reading and comprehending acumen (skills) of trainees. In such cases, the assessor will mention it on top of the MCQ submitted.

Grading criteria for Performance/Skill Assessments

MC No.	Title	Performance & Knowledge Assessment	Assessment Marks	Min. Passing marks	Assessment Result (Total Passing Marks)
SSD/M0102	Basics of Risk Analysis and Prevention Method	1 hour	100	50%	50 marks or more than 50 marks- Pass ;Less than 50 marks- Fail

2.2 Viva Assessment

Trainees may be required to take the viva test for their theory or their practical observation test which is an extended part of the practical observation and assessment. The viva assessments are externally set and externally marked.

2.3 Question papers for synoptic test

The question paper of the synoptic test is a confidential document. It will be held under the custody of SSDF/Assessment Agencies. The assessment agencies can be permitted to prepare the question papers and get them approved from SSDF. The centers need to follow the indenting process to obtain the question paper to administer the test.

2.4 Authenticity

Centers are reminded to check for authenticity of work where trainees may be using texts and the internet to complete tasks.

2.5 Feedback

Assessors must provide feedback on every occasion when a skills observation takes place. A proforma for feedback is included in this assessment guide.

2.6 Trainee records of coursework

Trainees should be encouraged to keep their work carefully in a portfolio or scrapbook. This may be an unfamiliar form of record keeping for some, but it is a good discipline which will benefit them when they progress in their learning and training.

2.7 Assessment sheets

The assessment records will be maintained as per the assessment sheet given in this document.

2.8 Codes of practice

Safe working practices, health and safety and codes of practice associated with the industry must always be adhered to.

2.9 Health and safety

The requirement to follow safe working practices is an integral part of all assessments and it is the responsibility of centers to ensure that all relevant health and safety requirements are in place before trainees start practical assessments.

Should a trainee fail to follow health and safety practice and procedures during an assessment, the assessment must be stopped and the trainee be advised of the reasons. In case of doubts, guidance should be sought from the SSDF.

2.10 Verification of assignments

By using marking checklists, verifiers can check that evidence for an assignment is complete and can ensure that allocation of marks has been fair and beyond dispute.

2.11 Internal quality assurance

Approved centers must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications.

Quality assurance includes initial center approval, Micro Credential approval and the Centre's own internal procedures for monitoring quality. Centers are responsible for internal quality assurance and SSDF and Assessment Agency are jointly responsible for external quality assurance.

Full details and guidance on the internal and external quality assurance requirements and procedures are provided by SSDF from time to time.

The Assessment Agencies are required to retain copies of trainees' assessment records and photographic evidence (in presence of trainee performing task) for three years after assessment. They can be asked by SSDF to provide these evidences as proof of assessment.

2.12 Evidence Collection by the Assessor

- The assessor needs to collect a copy of the attendance for the training done. The attendance sheet needs to be signed by the Training Centre Head.
- The Centre head also needs to declare that all the students appearing in the assessments have a minimum attendance of 70% for the training.
- The assessor needs to verify the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/ State Government.
- The same needs to be mentioned in the attendance sheet. Wherever required, the assessor can authenticate, and cross verify trainee's credentials in the enrollment form.
- The assessor needs to punch the trainee's roll number on all the final job pieces of learners. Different sections can have alpha numbering such as if a student's roll number is 123 then the three pieces submitted by that student can be numbered as 123a, 123b and 123c.
- The assessor needs to take a group photograph of all the students along with the assessor standing in the middle and with the Centre name/banner at the back, as evidence.
- The assessor needs to carry a camera to click photographs of the trainees working on the job and give theory exam as evidence with geo tagged, timestamp.
- The assessor also needs to carry a photo ID card.
- In the Assessment Evidence Form (provided after the practical marks sheet), the assessor should place the final photographic evidence in the space provided as evidence, from appropriate angles/sides of the final job piece submitted.

Trainee Guidance

Information for trainees

The assessment requires a trainee to perform a combination of tasks as given below:

The trainee will be required to demonstrate the occupational skills, knowledge, understanding and competencies mentioned in the Micro Credential.

Before the final assessments

The training partner (TP) will ensure that the trainees are ready for the assessment. The date and time of assessment would be intimated by the SSDF.

The trainee is required to reach the assessment venue at the scheduled date and time. TP is required to circulate/download the information regarding the assessment to the trainee. Failure to reach the assessment venue for the theory or the practical test as per the schedule would be considered absent. In exceptional cases, an assessor can give a maximum of half an hour of concession time for late coming.

The trainee is required to carry their Institutes photo ID card as well as a government issued photo ID card for verification on all days of assessments.

Any misbehavior/unethical practice by a trainee would lead to disqualification of the trainee.

The first assessment will have the theory test followed by practical and may be viva in smaller batches. (20- 30 trainees)

Assessments

Assessments for the job role of Basics of Risk Analysis & Accident Prevention Methods are conducted to gauge and assess the trainees' competencies and professional expertise as well as their skill and knowledge in the specified job role for Basics of Risk Analysis & Accident Prevention Methods.

During the practical task, trainees will be assessed on their workmanship, quality of finished products, time management, etc., based on the performance criteria (PC), knowledge and understanding and

their professional and soft skills as specified in the Micro Credential. They will be graded for all their assessments based on the approved assessment strategy of the Micro Credential. The performance criteria checklist as a guide for all Micro Credential is given in Practical Observation Checklist. Assessment tools and sample set of practical, theory & viva questions for each MC, assessment evidence, overall summary, and MC wise summary are also listed.

Practical Observation Checklist

Basics of Risk Analysis & Accident Prevention Methods				
1. Learner Name: _____2. Enrolment No: _____3. Centre:_____				
Guidance to assessors: 1. The assessor must exhibit the observation checklist to the learners before the commencement of the practical and explain to them how the learners will be observed and graded during the practical assessment. However, the learners are not allowed to use the practical observation checklist during the assessment or task. 2. The assessor must ensure that all the tools listed in the "List of Tools" are made available by the center to every learner being assessed.				
Performance Criteria	**Theory Marks**	**Practical Marks**	**Project Marks**	**Viva Marks**
PC-1: Understand basic definitions- incident, accident, Injury, lost time injury, unsafe condition, unsafe Acts, dangerous occurrences, hazards, error, near miss.	5	5	-	-
PC-2: Understand "Hazard Identification and risk assessment."	5	5	-	-
PC-3: Understand and carry out "HAZOP-Hazard, operability analysis" and "Job safety analysis."	5	5	-	-
PC-4: Understand theories of accident causation- Heinrich's Domino theory, "Heinrich 300-29-1 model, "Ferrell's Human	5	5	-	-

Factor Model", "Petersen's Accident/Incident Model" and Reason's Swiss Cheese Model".				
PC-5: Calculate "Frequency rate & Incident rate." Calculate "Lost time case rate"	5	5	-	-
PC-6: Calculate "DART rate" & "Severity rate"	5	5	-	-
PC-7: Understand "Fault tree analysis" and "Event tree analysis.	5	5	-	-
PC-8: Learn the hierarchy of controls, Importance of hierarchy of control & steps in hierarchy of control	5	5	-	-
PC-9: Understand Maslow's theory of Hierarchical Needs, Hertzberg's two-factor theory and McClelland's theory of needs	5	5	-	-
PC-10: Vroom's Theory of Expectancy, McGregor's theory X and theory Y and Alderfer's ERG theory	5	5	-	-
MC Total Marks	**50**	**50**	**-**	**-**

Tools, materials, and consumable list

List of Tools and Equipment

Batch Size: 30

S. No	Tools/Equipment Name	Specifications	Quantity for specified Batch Size
1.	Safety goggles	Nos	2
2.	Full face shield	Nos	1
3.	Leather gloves	Nos	2
4.	Puncture resistant gloves	Nos	2
5.	Chemical resistant gloves	Nos	2
6.	Electrically insulated latex gloves	Nos	2
7.	Safety helmet/hard hats	Nos	2
8.	Ear plugs	Nos	2
9.	Safety shoes	Nos	2
10.	Safety gumboots	Nos	2
11.	High visibility jackets	Nos	2
12.	N95 masks	Nos	2
13.	Double filter half face mask	Nos	2
14.	Double filter full face mask	Nos	2
15.	SCBA- Self-contained breathing apparatus	Nos	1
16.	Safety harness	Nos	1
17.	Lanyard	Nos	1
18.	Fall arrestor	Nos	1
19.	CO2 Fire extinguisher	Nos	1

20.	Dry Chemical Powder Fire extinguisher	Nos	1
21.	Fire hydrant system	Nos	1
22.	Multiple gas detector	Nos	1
23.	TDS Meter	Nos	1

Classroom Aids:

The aids required to conduct sessions in the classroom are:

1. Black/White board
2. Marker
3. Projector
4. Computer with relevant software

Assessment Method/Tools

PC-1: Understand basic definitions- incident, accident, Injury, lost time injury, unsafe condition, unsafe Acts, dangerous occurrences, hazards, error, near miss

A. Practical Questions **(5*1 = 5 Marks)**

Scenario:

In a workshop:

- A worker cuts his hand while not using gloves.
- Another tries to fix a live machine – no injury occurs.
- A wire is hanging loose near a walkway.
- Sparks from welding catch fire to rags.
- A worker slips on oil but doesn't fall.

Question

Identify each event using correct terms: incident, accident, injury, lost time injury, unsafe act, unsafe condition, dangerous occurrence, hazard, error, near miss.

B. Multiple Choice Questions **(5*1=5 Marks)**

01	What is an "incident" in a workplace safety context?			
	☐	A. Only a fatal accident	☐	B. Any unexpected event that may or may not result in injury or damage
	☐	C. A planned safety drill	☐	D. A medical emergency at home
02	What is meant by a "lost time injury"?			
	☐	A. An injury that occurs during break time	☐	B. An injury where the worker still reports for work
	☐	C. An injury that causes the worker to miss at least one full shift	☐	D. An injury that does not require first aid
03	What is a "near miss"?			
	☐	A. A fatal accident	☐	B. An event where no injury or damage occurred but could have

	☐	C. A condition that requires immediate evacuation	☐	D. A type of unsafe act
04	Which of the following is an example of an "unsafe act"?			
	☐	A. Poor lighting in a corridor	☐	B. Spilled oil on the floor
	☐	C. Using a tool without required PPE	☐	D. Broken ladder left unattended
05	Unsafe conditions refer to actions performed by people that can lead to accidents.			
	☐	A. True	☐	B. **False**
PC-2: Understand "Hazard Identification and risk assessment."				
A. Practical Questions				**(5*1 = 5 Marks)**
What are the main steps in a risk assessment process?				
B. Multiple Choice Questions				**(5*1=5 Marks)**
06	What is the primary goal of hazard identification?			
	☐	A. To calculate the cost of safety equipment	☐	B. To eliminate productivity issues
	☐	C. To recognize potential sources of harm in the workplace	☐	D. To assign tasks to workers
07	Hazard identification and risk assessment help in preventing accidents before they occur.			
	☐	A. True	☐	B. False
08	Risk assessment involves:			
	☐	A. Ignoring minor hazards	☐	B. Identifying only physical hazards
	☐	C. Evaluating the likelihood and severity of harm	☐	D. Filing financial reports
09	Which of the following is an example of a hazard?			
	☐	A. Fire extinguisher	☐	B. Wet floor
	☐	C. Safety helmet	☐	D. Warning sign

10	What should be done after identifying a hazard?			
	☐	A. Ignore it unless someone gets injured	☐	B. Report and control or eliminate it
	☐	C. Inform only the senior staff	☐	D. Wait for inspection day
PC-3: Understand and carry out "HAZOP- Hazard, operability analysis" and "Job safety analysis."				
A. Practical Questions				**(2.5*2 = 5 Marks)**
Scenario: You are working on a project that involves setting up a new machine in a manufacturing plant. The machine involves moving parts and electrical connections. Before beginning the setup, you need to conduct a Job Safety Analysis (JSA) and HAZOP. Question: Q1: What is one potential hazard you should identify during the JSA for this task? Q 2: How would you assess the risk of this hazard?				
B. Multiple Choice Questions				**(5*1=5 Marks)**
11	What is the primary purpose of a HAZOP study?			
	☐	A. To reduce production time	☐	B. To evaluate equipment efficiency
	☐	C. To identify potential hazards and operability issues in a process	☐	D. To create marketing strategies
12	In Job Safety Analysis (JSA), which of the following is the first step?			
	☐	A. Implement corrective measures	☐	B. Identify PPE requirements
	☐	C. Select the job to be analyzed	☐	D. Break down the job into steps
13	Which guide word is commonly used in a HAZOP analysis?			
	☐	A. Normal	☐	B. Always
	☐	C. More	☐	D. None
14	What is a key difference between JSA and HAZOP?			

	☐	A. JSA is for machines only, while HAZOP is for humans only	☐	B. HAZOP focuses on process deviations; JSA focuses on job tasks and worker safety
	☐	C. JSA is mandatory; HAZOP is not	☐	D. HAZOP eliminates all risks; JSA increases productivity only
15	HAZOP analysis is mainly used in design and process industries to detect potential hazards by analyzing deviations from the intended design.			
	☐	A. True	☐	B. False
PC-4: Understand theories of accident causation- Heinrich's Domino theory, "Heinrich 300-29-1 model, "Ferrell's Human Factor Model", "Petersen's Accident/Incident Model" and Reason's Swiss Cheese Model"				
A. Practical Questions **(5*1 = 5 Marks)**				
Can you explain, in your own words, how Heinrich's Domino Theory applies to accidents in the workplace, and how you would apply this theory to prevent a similar accident from occurring in the future?				
B. Multiple Choice Questions **(5*1=5 Marks)**				
16	According to Heinrich's Domino Theory, removing which element can prevent an accident?			
	☐	A. Equipment failure	☐	B. Unsafe act or condition
	☐	C. Environmental factor	☐	D. Time delay
17	What does Heinrich's 300-29-1 model represent?			
	☐	A. Frequency of machine failures in an industrial process	☐	B. Hierarchy of safety controls
	☐	C. Ratio of near misses, minor injuries, and major injuries	☐	D. Number of safety officers required per shift
18	In Reason's Swiss Cheese Model, accidents occur when:			
	☐	A. Only the final defense layer fails	☐	B. All holes in multiple layers align, allowing a hazard to pass through
	☐	C. Operators fail to notice small issues	☐	D. Equipment becomes obsolete

19	Petersen's Accident/Incident Model emphasizes that both management system weaknesses and unsafe acts contribute to accidents.			
	☐	True	☐	False
20	Ferrell's Human Factor Model focuses primarily on:			
	☐	A. Weather and climate conditions	☐	B. Organizational structure
	☐	C. Human behavior and personal factors	☐	D. Equipment maintenance schedules
PC-5: Calculate "Frequency rate & Incident rate." Calculate "Lost time case rate"				
A. Practical Questions				**(5*1 = 5 Marks)**
Explain the formula of "Frequency rate, Incident rate & Lost time case rate in detail.				
B. Multiple Choice Questions				**(5*1=5 Marks)**
21	Frequency Rate is used to measure:			
	☐	A. The number of safety drills conducted	☐	B. How often injuries occur per million hours worked
	☐	C. The number of holidays taken	☐	D. How many employees were hired
22	What is the standard multiplier used in calculating Frequency Rate?			
	☐	A. 100	☐	B. 10,000
	☐	C. 1,000,000	☐	D. 500
23	Lost Time Case Rate (LTCR) is calculated to find:			
	☐	A. The number of fire drills per year	☐	B. The cost of injuries
	☐	C. The rate of cases that caused employees to miss work	☐	D. Total hours worked
24	If 2 injuries occurred in 100,000 hours worked, what is the Frequency Rate?			

	☐	A. 2	☐	B. 10
	☐	C. 20	☐	D. Cannot be calculated
25	Incident Rate and Frequency Rate are the same and use the same calculation method in all industries.			
	☐	True	☐	False
PC-6: Calculate "DART rate" & "Severity rate"				
A. Practical Questions **(5*1=5 Marks)**				
A company reported the following for the last year: • Total recordable DART cases (Days Away, Restricted, or Transferred): 6 • Total lost workdays: 120 • Total hours worked: 400,000 Using this data, calculate: 1. DART Rate 2. Severity Rate				
B. Multiple Choice Questions **(5*1=5 Marks)**				
26	What does DART in DART Rate stand for?			
	☐	A. Daily Accidents Reporting Table	☐	B. Days Away, Restricted or Transferred
	☐	C. Damage And Recovery Tracker	☐	D. Duration of Accidents and Risk Trend
27	The DART Rate measures			
	☐	A. Minor injuries that don't affect work	☐	B. Productivity of workers
	☐	C. Serious work-related injuries or illnesses that result in lost days, restrictions, or job transfers	☐	D. Time taken for equipment repair
28	Severity Rate is calculated based on:			

		A. Number of days lost due to injuries		B. Total number of employees
		C. Number of incidents		D. Number of safety audits
29	If 120 lost workdays occurred in 200,000 total hours worked, what is the Severity Rate?			
		A. 0.6		B. 1.2
		C. 2.4		D. 3.0
30	DART Rate helps identify how often serious injuries occur in the workplace that affect a worker's job duties.			
		A. True		B. False
PC-7: Understand "Fault tree analysis" and "Event tree analysis.				
A. Practical Questions **(5*1 = 5 Marks)**				
Can you briefly explain the difference between Fault Tree Analysis and Event Tree Analysis? Also, give one example of when each method might be used in a workplace safety scenario.				
B. Multiple Choice Question **(1*5=5 Marks)**				
31	What does Fault Tree Analysis (FTA) focus on?			
		A. Causes leading to a specific failure or accident		B. Success paths of a system
		C. Employee satisfaction		D. Cost reduction methods
32	What does Event Tree Analysis (ETA) help determine?			
		A. Root cause of an incident		B. Steps to develop new products
		C. Different possible outcomes following an initial event		D. Number of employees needed for a task
33	Fault Tree Analysis uses which type of logic?			
		A. Forward		B. Random

	☐	C. Backward	☐	D. Predictive only
34	Which of the following is true about Event Tree Analysis?			
	☐	A. It starts from an undesired event and goes backward	☐	B. It uses only mechanical data
	☐	C. It starts from an initiating event and moves forward to show possible consequences	☐	D. It identifies costs before outcomes
35	Fault Tree Analysis begins with a known failure and analyzes possible causes, while Event Tree Analysis begins with an initiating event and shows possible outcomes.			
	☐	A. True	☐	B. False
PC-8: Learn the hierarchy of controls, Importance of hierarchy of control & steps in hierarchy of control				
A. Practical Questions **(5*1 = 5 Marks)**				
Scenario: In a metal fabrication unit, workers are frequently exposed to loud noise from cutting and grinding machines. Some employees have reported early signs of hearing loss. The safety manager is considering different ways to protect the workers and reduce noise exposure. Question: Based on the Hierarchy of Controls, what steps should you take to control this hazard, and why is it important to follow the hierarchy from top to bottom?				
B. Multiple Choice Question **(5*1=5 Marks)**				
36	What is the first and most effective step in the hierarchy of controls?			
	☐	A. PPE	☐	B Substitution
	☐	C Elimination	☐	D Engineering controls
37	Why is the hierarchy of control important in workplace safety?			
	☐	A. It helps manage salaries	☐	B. It provides steps to increase productivity
	☐	C. It guides how to reduce or remove hazards systematically	☐	D. It replaces training programs

38	Which control involves replacing a hazardous material or process with a safer one?			
	☐	A. Engineering controls	☐	B. Substitution
	☐	C. Administration	☐	D. PPE
39	Which of the following is lowest in the hierarchy of controls?			
	☐	A. Engineering controls	☐	B. Substitution
	☐	C. PPE (Personal Protective Equipment)	☐	D. Elimination
40	PPE is the most effective method in the hierarchy of controls.			
	☐	A. True	☐	B. false
PC-9: Understand Maslow's theory of Hierarchical Needs, Hertzberg's two-factor theory and McClelland's theory of needs				
A. Practical Questions **(5*1 = 5 Marks)**				
Can you explain Maslow's Hierarchy of Needs and give a workplace example of how each level of the hierarchy can affect employee motivation?				
B. Multiple Choice Questions **(5*1=5 Marks)**				
41	Q1. According to Maslow's Hierarchy of Needs, what is the most basic level of need?			
	☐	A. Self-actualization	☐	B. Safety
	☐	C. Esteem	☐	D. Physiological
42	In Herzberg's Two-Factor Theory, which of the following is a motivator?			
	☐	A. Salary	☐	B. Job security
	☐	C. Achievement	☐	D. Company policy
43	McClelland's Theory of Needs focuses on which of the following?			

	☐	A. Power, Affiliation, and Achievement	☐	B. Food, Shelter, and Clothing
	☐	C. Rewards, Benefits, and Bonuses	☐	D. Stress, Burnout, and Recovery
44	According to Herzberg, which of the following is a hygiene factor?			
	☐	A. Recognition	☐	B. Growth opportunity
	☐	C. Work conditions	☐	D. Challenge in work
45	Maslow believed that higher-level needs like self-esteem and self-actualization can be fulfilled even if basic needs like food and safety are not met.			
	☐	True	☐	False
PC-10: Vroom's Theory of Expectancy, McGregor's theory X and theory Y and Alderfer's ERG theory				
A. Practical Questions				**(5*1= 5 Marks)**
Can you explain Vroom's Expectancy Theory of Motivation and how you would apply it to encourage better performance from an underperforming employee?				
B. Multiple Choice Questions				**(5*1=5 Marks)**
46	Q1. According to Vroom's Expectancy Theory, motivation depends on			
	☐	A. Salary and vacation time	☐	B. Expectancy, Instrumentality, and Valence
	☐	C. Discipline and control	☐	D. Power and authority
47	McGregor's Theory X assumes that employees:			
	☐	A. Are self-motivated and enjoy work	☐	B. Prefer flexible hours
	☐	C. Dislike work and need strict supervision	☐	D. Want team recognition
48	Alderfer's ERG theory allows for multiple needs to be pursued at the same time, unlike Maslow's strict hierarchy			

	☐	A. True	☐	B. false
49	Alderfer's ERG Theory includes which three categories of needs?			
	☐	A. Energy, Respect, Growth	☐	B. Effort, Reward, Goals
	☐	C. Existence, Relatedness, Growth	☐	D. Esteem, Recognition, Gratitude
50	Theory Y managers believe employees:			
	☐	A. Work only for money	☐	B. Need to be threatened to perform
	☐	C. Are lazy by nature	☐	D. Enjoy responsibility and are motivated

Assessment Evidence Form

Trainee name: **Trainee roll number:**

Centre name/ Code Date:

This is to confirm that the trainee has handed over the final job to the assessor. (For each task separate sheet can be used).

Assessor to affix photographs of the practical output (end product)

Trainee's signature:

_____

Trainee's name (please print):

_____

Assessor's signature:

_____

Assessor's name (please print):

_____

Centre Head's seal and signature:

_____

Assessment summary

Assessor's comments

.....

.....

.....

This is to confirm that the trainee has undertaken the assessment for the job role of Basics of Risk Analysis and Accident Prevention methods

Trainee's signature:

_____

Trainee's name (please print):

_____

Assessor's signature:

_____

Assessor's name (please print):

_____

Centre Head's seal and signature:

_____

Trainee's photo ID (other than the Institute ID):

_____

Assessment completion date:

_____

Assessment Summary Sheet

Safety Skill Development Foundation Result Analysis Summary						
Batch ID						
Micro Credential Code						
Micro Credential/Code Name						
Training Centre Name & Address:						
Program Date						
Master Trainer/SME Name						
Master Assessor/SME Name						
S. No.	**Candidate Name**	**Roll No.**	**Theory (50 Marks)**	**Skills (Practical) (50 Marks)**	**Total (Theory + skills)**	**Result**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

(Note : Passing Criteria will be overall 90% and above for Master Trainer / Master Assessor).