



## Assessment Guide

Fundamentals of Safety Measures in Electrical Switchgear & Protective devices

NSQF Level – 4

*Sector: Cross Sectoral*

*Occupation: Electrical Safety Management*

*MC Code: SSD/M0108*

*Version: 1.0*



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## Micro Credentials Structure

To achieve full certification as Fundamentals of Safety Measures in Electrical Switchgear & Protective devices, trainees must complete all 2 units and pass assessments. The assessments will comprise of theory & practical tests.

Sl. no	Unit No.	Title	Assessment method
001	Module 1	Electrical Risk Assessment and Implementation of Safety Measures	The assessment will be conducted to evaluate the competencies acquired by the trainee in terms of skills, knowledge, and understanding related to electrical risk assessment and the implementation of safety measures in industrial and workplace settings. It will focus on the trainee's ability to identify electrical hazards, assess associated risks, apply appropriate control measures, and ensure compliance with safety standards and procedures. The assessment will be based on theory, viva-voice or practical.
002	Module 2	Electrical Systems and Workplace Safety Processes	The assessment will be conducted to evaluate the competencies acquired by the trainee in terms of skills, knowledge, and understanding related to electrical systems and workplace safety processes. It will focus on the trainee's ability to identify electrical hazards, understand safe operating procedures, implement preventive and control measures, and ensure compliance with safety standards



			and regulations. The assessment will be based on theory, viva- voice or practical.
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## Guidance for assessors

This Micro Credential provides the performance criteria, skills and knowledge required to perform for the job role of Fundamentals of Safety Measures in Electrical Switchgear & Protective devices at NSQF Level 4. The role is referred to as ‘Fundamentals of Safety Measures in Electrical Switchgear & Protective devices’

**Brief MC description:** The MC deals with the various devices employed for the purpose of switching, controlling, and safeguarding electrical power circuits, as well as different types of electrical equipment by detecting any faulty conditions within the system through protection relays. Switchgear encompasses circuit breakers, current transformers, voltage transformers, protection relays, measuring instruments, electrical switches, electrical fuses, miniature circuit breakers, lightning arresters or surge arresters, electrical isolators, and other related equipment.

**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 Fundamentals of Safety Measures in Electrical Switchgear & Protective devices. 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.

### **Module1: Electrical Risk Assessment and Implementation of Safety Measures**

The trainee should demonstrate the ability to identify electrical hazards present or likely to arise in the workplace by examining electrical systems, equipment, wiring layouts, and associated documentation such as single-line diagrams and maintenance records. The trainee must classify electrical risks based on their nature and severity, including risks of electric shock, arc flash, short circuits, overloads, and equipment failure.



The trainee should assess potential electrical hazards by considering factors such as voltage levels, current load, insulation integrity, earthing/grounding effectiveness, environmental conditions (e.g., moisture, dust, confined spaces), and proximity to flammable or conductive materials. The trainee must also evaluate the likelihood and consequences of incidents arising from faulty installations, damaged cables, or improper use of electrical equipment.

## **Module 2: Emergency Response and Evacuation Measures**

The trainee should demonstrate the ability to understand and interpret electrical systems within the workplace, including components such as power distribution systems, control panels, wiring networks, and electrical equipment. The trainee must be able to identify potential hazards associated with these systems, such as exposed conductors, faulty insulation, overloading, improper grounding, and unsafe operating practices.

The trainee should evaluate workplace safety processes related to electrical operations by reviewing standard operating procedures (SOPs), safety guidelines, and regulatory requirements. This includes assessing the effectiveness of permit-to-work systems, lockout/tagout (LOTO) procedures, and routine inspection and maintenance practices.

## **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/M0108	Fundamentals of Safety Measures in Electrical Switchgear & Protective devices	0.5 hours	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 Fundamentals of Safety Measures in Electrical Switchgear & Protective devices 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 Fundamentals of Safety Measures in Electrical Switchgear & Protective devices

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

<b>Fundamentals of Safety Measures in Electrical Switchgear &amp; Protective devices</b>
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: Identify faults or abnormality in electrical system, recognize potential hazards and understand key parameters for monitoring and measurement.	3	4	-	-
PC-2: Classify different types of switchgear (LV, MV, HV) and their functions	3	4	-	-
PC-3: Identify the purpose and importance of various switching, controlling and safeguarding devices in electrical systems	3	4	-	-
PC-4: Apply proper grounding techniques and protective measures effectively when dealing with electrical systems.	3	5	-	-
PC-5: Demonstrate basic inspection and maintenance procedures for switchgear components.	3	4	-	-
PC-6: Apply emergency measures & procedures and fire prevention measures on	3	4	-	-



failure of electrical controlling devices				
PC-7: Adhere to relevant codes, regulations, and standards for electrical safety.	3	4	-	-
PC-8: Implement safety measures in switchgear operation and use appropriate PPEs & safety tools	3	4	-	-
PC-9: Identify the working principles of circuit breakers, relays, and fuses	3	4	-	-
PC-10 Use protection mechanisms against overloads, short circuits, and earth faults	3	5		
PC 11 Assess and secure the area to prevent further injury (e.g., switch off the power source if safe to do so) from electrical shocks	3	4		
PC 12 Check the victim's responsiveness, breathing, and pulse immediately. If unconscious but breathing, place the victim in the recovery position	3	4		
PC 13 Inform the designated emergency response team or call local emergency services without delay. Provide clear details about the incident, including the type of electrical shock (high-voltage/low-voltage).	3	4		



PC 14 Conduct a hazard review and implement corrective and preventive actions (CAPA). Revise relevant electrical safety protocols based on investigation findings.	3	4		
<b>MC Total Marks</b>	<b>42</b>	<b>58</b>	-	-

## 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.	Personal Protective Equipment (PPE)	Nos	5
2.	Multimeters	Nos	1
3.	Clamp Meters	Nos	1
4.	Voltage Testers	Nos	1
5.	Phase Sequence Indicators	Nos	1
6.	Non-contact voltage testers	Nos	1
7.	Megohmmeters	Nos	1
8.	Insulation Resistance Testers	Nos	1
9.	Ground Resistance Testers	Nos	1
10.	Circuit Breaker Test Sets	Nos	1



11.	Emergency Showers and Eyewash Stations	Nos	1
12.	Fire Extinguishers	Nos	1
13.	First Aid Kits	Nos	1
14.	Emergency Response Kits	Nos	1
15.	Lockout/Tagout (LOTO) Kits	Nos	1
16.	Circuit Tracers and Analyzers	Nos	1
17.	Insulated Hand Tools	Nos	5
18.	Portable Generators and Backup Power Supplies	Nos	1
19.	Grounding and Bonding Equipment	Nos	1
20.	Cable Pullers and Fish Tapes	Nos	1
21.	Voltage and Current Calibrators	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

### SECTION: PRACTICAL (58 Marks)

1	<p><b>Q1. Identification and Inspection of Switchgear Components (10 Marks)</b></p> <p>The trainee is required to physically identify and inspect the given electrical panel/switchgear setup.</p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"><li>• Identify components such as circuit breakers, isolators, relays, fuses, busbars, and earthing connections.</li><li>• Check for visible defects (loose connections, overheating signs, damaged insulation).</li><li>• Verify labelling and accessibility of components.</li></ul> <p><b>Assessment Criteria:</b></p> <ul style="list-style-type: none"><li>• Accuracy of identification (4 marks)</li><li>• Observation of defects (3 marks)</li><li>• Reporting and documentation (3 marks).</li></ul>
2	<p><b>Q2. Demonstration of Safe Isolation Procedure (LOTO) (12 Marks)</b></p> <p>The trainee must demonstrate proper Lockout/Tagout (LOTO) procedures before working on electrical equipment.</p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"><li>• Identify energy sources</li><li>• Perform shutdown and isolation</li><li>• Apply lock and tag</li><li>• Verify zero energy state</li></ul> <p><b>Assessment Criteria:</b></p> <ul style="list-style-type: none"><li>• Correct sequence of steps (5 marks)</li></ul>



	<ul style="list-style-type: none"><li>• Use of safety devices (3 marks)</li><li>• Compliance with safety protocols (4 marks)</li></ul>
3	<p><b>Q3. Testing and Use of Protective Devices (10 Marks)</b></p> <p>The trainee will demonstrate the functioning and safety checks of protective devices.</p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"><li>• Test MCB/ELCB/RCD using test button</li><li>• Check fuse continuity</li><li>• Observe trip conditions</li></ul> <p><b>Assessment Criteria:</b></p> <ul style="list-style-type: none"><li>• Correct testing procedure (4 marks)</li><li>• Interpretation of results (3 marks)</li><li>• Safety precautions followed (3 marks)</li></ul>
4	<p><b>Q4. Hazard Identification and Risk Assessment (10 Marks)</b></p> <p>The trainee must identify hazards in a simulated or real switchgear setup.</p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"><li>• Identify electrical hazards (shock, arc flash, overload)</li><li>• Assess risk level (low/medium/high)</li><li>• Suggest control measures</li></ul> <p><b>Assessment Criteria:</b></p> <ul style="list-style-type: none"><li>• Hazard identification accuracy (4 marks)</li><li>• Risk evaluation (3 marks)</li><li>• Suggested mitigation measures (3 marks)</li></ul>
5	<p><b>Q5. Use of Personal Protective Equipment (PPE) (8 Marks)</b></p> <p>The trainee must demonstrate correct selection and usage of PPE.</p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"><li>• Select appropriate PPE (gloves, helmet, face shield, insulated tools)</li><li>• Demonstrate correct wearing and inspection</li></ul> <p><b>Assessment Criteria:</b></p>



	<ul style="list-style-type: none"><li>• Selection of PPE (3 marks)</li><li>• Proper usage (3 marks)</li><li>• Awareness of limitations (2 marks)</li></ul>
6	<p><b>Q6. Emergency Response Simulation (8 Marks)</b></p> <p>The trainee must respond to a simulated electrical emergency.</p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"><li>• Identify emergency situation (shock/fire)</li><li>• Demonstrate safe response (isolation, first aid basics, alert system)</li></ul> <p><b>Assessment Criteria:</b></p> <ul style="list-style-type: none"><li>• Response time and action (3 marks)</li><li>• Correct emergency procedure (3 marks)</li><li>• Safety awareness (2 marks)</li></ul>

**SECTION: B [Multiple Choice Questions (42 Marks)]**

PC-1: Identify faults or abnormality in electrical system, recognise potential hazards and understand key parameters for monitoring and measurement (3 Marks)

01	<b>Q1.</b> Which of the following indicates a possible electrical fault?			
	<input type="checkbox"/>	A. Stable voltage	<input type="checkbox"/>	B. Overheating of cables
	<input type="checkbox"/>	C. Proper insulation	<input type="checkbox"/>	D. Normal load
02	<b>Q2.</b> Which instrument is used to measure current?			
	<input type="checkbox"/>	A. Voltmeter	<input type="checkbox"/>	B. Ammeter
	<input type="checkbox"/>	C. Ohmmeter	<input type="checkbox"/>	D. Wattmeter
03	Loose connections may lead to:			
	<input type="checkbox"/>	A. Reduced resistance	<input type="checkbox"/>	B. Short circuits
	<input type="checkbox"/>	C. Overheating	<input type="checkbox"/>	D. Increased insulation
PC-2: Classify different types of switchgear (LV, MV, HV) and their functions (3 Marks)				
04	LV switchgear operates up to:			
	<input type="checkbox"/>	A. 230 kV	<input type="checkbox"/>	B. 33 kV
	<input type="checkbox"/>	C. 11 kV	<input type="checkbox"/>	D. 1 kV
05	Medium Voltage (MV) range is			
	<input type="checkbox"/>	A. Up to 1 kV	<input type="checkbox"/>	B. 1 kV to 33 kV
	<input type="checkbox"/>	C. Above 220 kV	<input type="checkbox"/>	D. Below 100 V



06	HV switchgear is generally used for:			
	<input type="checkbox"/>	A. Domestic wiring	<input type="checkbox"/>	B. Industrial heavy loads
	<input type="checkbox"/>	C. Small appliances	<input type="checkbox"/>	D. Batteries
PC-3: Identify the purpose and importance of various switching, controlling and safeguarding devices in electrical systems (3 Marks)				
07	A circuit breaker is used to:			
	<input type="checkbox"/>	A. Store energy	<input type="checkbox"/>	B. Interrupt current flow
	<input type="checkbox"/>	C. Increase voltage	<input type="checkbox"/>	D. Reduce resistance
08	A relay function as:			
	<input type="checkbox"/>	A. Manual switch	<input type="checkbox"/>	B. Automatic control device
	<input type="checkbox"/>	C. Load	<input type="checkbox"/>	D. Insulator
09	Fuse protects circuits from:			
	<input type="checkbox"/>	A. Low voltage	<input type="checkbox"/>	B. Overcurrent
	<input type="checkbox"/>	C. Low current	<input type="checkbox"/>	D. High resistance
PC-4: Apply proper grounding techniques and protective measures effectively when dealing with electrical systems. (3 Marks)				
10	Earthing is used to:			
	<input type="checkbox"/>	A. Increase voltage	<input type="checkbox"/>	B. Prevent electric shock



	<input type="checkbox"/>	C. Store electricity	<input type="checkbox"/>	D. Reduce current
11	A good earthing system has:			
	<input type="checkbox"/>	A. High resistance	<input type="checkbox"/>	B. Zero resistance
	<input type="checkbox"/>	C. Low resistance	<input type="checkbox"/>	D. No resistance
12	Grounding protects against:			
	<input type="checkbox"/>	A. Overheating	<input type="checkbox"/>	B. Leakage current
	<input type="checkbox"/>	C. High voltage	<input type="checkbox"/>	D. Low current
PC-5: Demonstrate basic inspection and maintenance procedures for switchgear components. (3 Marks)				
13	Routine inspection helps to:			
	<input type="checkbox"/>	A. Increase faults	<input type="checkbox"/>	B. Detect defects early
	<input type="checkbox"/>	C. Reduce voltage	<input type="checkbox"/>	D. Increase load
14	Insulation resistance is checked using:			
	<input type="checkbox"/>	A. Ammeter	<input type="checkbox"/>	B. Megger
	<input type="checkbox"/>	C. Voltmeter	<input type="checkbox"/>	D. Multimeter
15	Maintenance ensures:			
	<input type="checkbox"/>	A. Equipment failure	<input type="checkbox"/>	B. Safe operation
	<input type="checkbox"/>	C. Increased hazards	<input type="checkbox"/>	D. No change



PC-6: Apply emergency measures & procedures and fire prevention measures on failure of electrical controlling devices (3 Marks)

16	Electrical fire should be extinguished using:			
	<input type="checkbox"/>	A. Water	<input type="checkbox"/>	B. Sand/CO <sub>2</sub> extinguisher
	<input type="checkbox"/>	C. Oil	<input type="checkbox"/>	D. Foam (without isolation)
17	First step in electrical emergency is:			
	<input type="checkbox"/>	A. Panic	<input type="checkbox"/>	B. Switch off power
	<input type="checkbox"/>	C. Call friends	<input type="checkbox"/>	D. Ignore
18	Overloading can cause:			
	<input type="checkbox"/>	A. Cooling	<input type="checkbox"/>	B. Fire hazard
	<input type="checkbox"/>	C. Low current	<input type="checkbox"/>	D. Insulation increase
PC-7: Adhere to relevant codes, regulations, and standards for electrical safety. (3 Marks)				
19	Electrical safety standards ensure:			
	<input type="checkbox"/>	A. Increased risk	<input type="checkbox"/>	B. Safe practices
	<input type="checkbox"/>	C. No guidelines	<input type="checkbox"/>	D. High cost
20	PPE usage is mandated by:			
	<input type="checkbox"/>	A. Personal choice	<input type="checkbox"/>	B. Safety regulations
	<input type="checkbox"/>	C. Weather	<input type="checkbox"/>	D. Load
21	Compliance reduces:			



	<input type="checkbox"/>	A. Productivity	<input type="checkbox"/>	B. Accidents
	<input type="checkbox"/>	C. Voltage	<input type="checkbox"/>	D. Resistance
PC-8: Implement safety measures in switchgear operation and use appropriate PPEs & safety tools. (3 Marks)				
22	Insulated gloves are used to:			
	<input type="checkbox"/>	A. Improve grip only	<input type="checkbox"/>	B. Protect from shock
	<input type="checkbox"/>	C. Increase voltage	<input type="checkbox"/>	D. Reduce load
23	Face shield protects from:			
	<input type="checkbox"/>	A. Dust only	<input type="checkbox"/>	B. Arc flash
	<input type="checkbox"/>	C. Voltage	<input type="checkbox"/>	D. Current
24	Safety tools are:			
	<input type="checkbox"/>	A. Metallic tools	<input type="checkbox"/>	B. Insulated tools
	<input type="checkbox"/>	C. Wooden sticks	<input type="checkbox"/>	D. Plastic covers
PC-9: Identify the working principles of circuit breakers, relays, and fuses (3 Marks)				
25	Circuit breaker operates on:			
	<input type="checkbox"/>	A. Manual force	<input type="checkbox"/>	B. Fault detection and interruption
	<input type="checkbox"/>	C. Heat storage	<input type="checkbox"/>	D. Resistance
26	Relay works based on:			



	<input type="checkbox"/>	A. Temperature	<input type="checkbox"/>	B. Electrical signals
	<input type="checkbox"/>	C. Load only	<input type="checkbox"/>	D. Voltage drop only
27	What should be ensured about emergency equipment?			
	<input type="checkbox"/>	A. Magnetic effect	<input type="checkbox"/>	B. Heating effect of current
	<input type="checkbox"/>	C. Voltage effect	<input type="checkbox"/>	D. Chemical effect
PC-10 Use protection mechanisms against overloads, short circuits, and earth fault (3 Marks)				
28	Overload protection is provided by:			
	<input type="checkbox"/>	A. Fuse/MCB	<input type="checkbox"/>	B. Battery
	<input type="checkbox"/>	C. Wire	<input type="checkbox"/>	D. Switch
29	Short circuit leads to:			
	<input type="checkbox"/>	A. Low current	<input type="checkbox"/>	B. High current
	<input type="checkbox"/>	C. No current	<input type="checkbox"/>	D. Constant current
30	Earth fault protection is done by			
	<input type="checkbox"/>	A. Relay	<input type="checkbox"/>	B. RCD/ELCB
	<input type="checkbox"/>	C. Fuse	<input type="checkbox"/>	D. Switch
PC 11 Assess and secure the area to prevent further injury (e.g., switch off the power source if safe to do so) from electrical shocks (3 Marks)				
31	First action after shock incident:			



	<input type="checkbox"/>	A. Touch victim	<input type="checkbox"/>	B. Switch off power
	<input type="checkbox"/>	C. Run away	<input type="checkbox"/>	D. Pour water
32	Area should be secured to:			
	<input type="checkbox"/>	A. Continue work	<input type="checkbox"/>	B. Prevent further injury
	<input type="checkbox"/>	C. Increase load	<input type="checkbox"/>	D. Reduce voltage
33	Use of insulated tools prevents:			
	<input type="checkbox"/>	A. Fire	<input type="checkbox"/>	B. Shock
	<input type="checkbox"/>	C. Voltage	<input type="checkbox"/>	D. Current

PC 12 Check the victim's responsiveness, breathing, and pulse immediately. If unconscious but breathing, place the victim in the recovery position (3 Marks)				
34	First check after rescue:			
	<input type="checkbox"/>	A. Equipment	<input type="checkbox"/>	B. Victim responsiveness
	<input type="checkbox"/>	C. Voltage	<input type="checkbox"/>	D. Load
35	If unconscious but breathing:			
	<input type="checkbox"/>	A. Leave victim	<input type="checkbox"/>	B. Recovery position
	<input type="checkbox"/>	C. Give food	<input type="checkbox"/>	D. Walk away
36	Breathing check ensures:			



	<input type="checkbox"/>	A. Power supply	<input type="checkbox"/>	B. Life signs
	<input type="checkbox"/>	C. Load	<input type="checkbox"/>	D. Resistance
PC 13 Inform the designated emergency response team or call local emergency services without delay. Provide clear details about the incident, including the type of electrical shock (high-voltage/low-voltage). (3 Marks)				
37	Emergency should be reported:			
	<input type="checkbox"/>	A. Later	<input type="checkbox"/>	B. Immediately
	<input type="checkbox"/>	C. Next day	<input type="checkbox"/>	D. Never
38	While reporting, provide:			
	<input type="checkbox"/>	A. Guess	<input type="checkbox"/>	B. Clear details
	<input type="checkbox"/>	C. No info	<input type="checkbox"/>	D. Random info
39	Electrical shock type should include:			
	<input type="checkbox"/>	A. Colour	<input type="checkbox"/>	B. Voltage level
	<input type="checkbox"/>	C. Time	<input type="checkbox"/>	D. Weather
PC 14 Conduct a hazard review and implement corrective and preventive actions (CAPA). Revise relevant electrical safety protocols based on investigation findings. (3 Marks)				
40	Hazard review helps to:			
	<input type="checkbox"/>	A. Repeat incidents	<input type="checkbox"/>	B. Prevent recurrence
	<input type="checkbox"/>	C. Increase faults	<input type="checkbox"/>	D. Ignore issues



41	CAPA stands for:			
	<input type="checkbox"/>	A. Corrective and Preventive Action	<input type="checkbox"/>	B. Control and Power Action
	<input type="checkbox"/>	C. Current and Power Analysis	<input type="checkbox"/>	D. Circuit and Protection Act
42	Safety protocols should be:			
	<input type="checkbox"/>	A. Updated regularly	<input type="checkbox"/>	B. Ignored
	<input type="checkbox"/>	C. Removed	<input type="checkbox"/>	D. Reduced

## 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).

<p>Assessor to affix photographs of the practical output (end product)</p>
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**Trainee's signature:**

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Trainee's name (please print):

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Assessor's signature:

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Assessor's name (please print):

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Centre Head's seal and signature:

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## Assessment summary

### Assessor's comments

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This is to confirm that the trainee has undertaken the assessment for the job role of Fundamentals of Safety Measures in Electrical Switchgear & Protective devices

Trainee's signature:

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Trainee's name (please print):

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Assessor's signature:

---

Assessor's name (please print):

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Centre Head's seal and signature:

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

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Assessment completion date:

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## Assessment Summary Sheet

Safety Skill Development Foundation Result Analysis Summary						
<b>Batch ID</b>						
<b>Micro Credential Code</b>						
<b>Micro Credential/Code Name</b>						
<b>Training Centre Name &amp; Address:</b>						
<b>Program Date</b>						
<b>Master Trainer/SME Name</b>						
<b>Master Assessor/SME Name</b>						
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).**