Model Curriculum

QP Name: Assistant Electrician

QP Code: CON/Q0602

QP Version: 2.0

NSQF Level: 3

Model Curriculum Version: 1.0

Construction Skill Development Council of India|| Construction Skill Development Council of India (CSDCCI), CPB – 103 & 104, Block-4B, DLF corporate Park, Phase – III, MG Road Gurugram – 122002
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Training Parameters

Sector	Construction Skill Development Council of India
Sub-Sector	Real Estate and Infrastructure Construction
Occupation	Construction Electrical Works
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7411.0100
Minimum Educational Qualification and Experience	10th standard with 5-10 Years (For Non-Trained Worker, minimum 5-year experience in same occupation), or 10th standard with 3-5 Years (Minimum 3-year experience as a certified Helper Electrician NSQF Level 2)
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	20/01/2021
Next Review Date	20/01/2025
NSQC Approval Date	
QP Version	2.0
Model Curriculum Creation Date	02/01/2021
Model Curriculum Valid Up to Date	20/01/2025
Model Curriculum Version	1.0
Minimum Duration of the Course	400 hrs
Maximum Duration of the Course	400 hrs

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Use appropriate hand, power tools and electrical devices/ components.
- Install electrical material components and fixtures for temporary lighting arrangement**.**
- Perform maintenance of lighting arrangement.
- Operate basic test on lighting arrangement.
- Lay conduit in RCC and brick/ block masonry.
- Perform LV wiring in house electrification work.
- Assemble and install temporary LV electrical panels/ distribution boards
- Perform electrical earthing of panel/DB
- Perform maintenance of panels/distribution boards
- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.
- Demonstrate practices sensitive to disabilities (physical, mental, intellectual or sensory impairment), cultural diversity and gender neutrality.
- Demonstrate prioritizing of work activities to achieve the desired productivity.
- Demonstrate organizing of resources as per work plan prior to commencement of work.
- Identify various hazards at construction site.
- Use PPE's relevant to construction electrician works.
- Perform safe waste disposal at construction site.
- Demonstrate the activities to check the spread of infection as per medical/ organizational guidelines.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration (Hrs)	Practical Duration (Hrs)	On-the-Job Training Duration (Mandatory) (Hrs)	On-the-Job Training Duration (Recommended) (Hrs)	Total Duration (Hrs)
Bridge Module	**08:00**	**00:00**	**00:00**	**00:00**	**08:00**
CON/N0602 *Handle hand and power tools relevant to construction electrical works* **NOS Version No. 2.0** **NSQF Level 3**	**16:00**	**36:00**	**00:00**	**00:00**	**48:00**
Handle hand and power tools relevant to	**16:00**	**36:00**	**00:00**	**00:00**	**48:00**

construction electrical works					
CON/N0603 *Install temporary lighting arrangement at construction sites* NOS Version No. 2.0 NSQF Level 3	24:00	64:00	00:00	00:00	88:00
Install temporary lighting arrangement at construction sites	24:00	64:00	00:00	00:00	88:00
CON/N0604 *Assist in LV (low voltage) electrical wiring at permanent structures* NOS Version No. 2.0 NSQF Level 3	24:00	72:00	00:00	00:00	96:00
Assist in LV (low voltage) electrical wiring at permanent structures	24:00	72:00	00:00	00:00	96:00
CON/N0605 *Assemble, install and maintain temporary LV electrical panels (distribution boards) at construction site* NOS Version No. 2.0 NSQF Level 3	24:00	72:00	00:00	00:00	96:00
Assemble, install and maintain temporary LV electrical panels (distribution boards) at construction site	24:00	72:00	00:00	00:00	96:00
CON/N8001 *Work effectively in a team to deliver desired results at the workplace* NOS Version No.1.1 NSQF Level 3	08:00	12:00	00:00	00:00	20:00
Communicate effectively at workplace	08:00	12:00	00:00	00:00	20:00
CON/N8002 *Plan and organize work to meet expected outcomes* NOS Version No. 1.0 NSQF Level 3	08:00	12:00	00:00	00:00	20:00
Prioritise activities and organise resources	08:00	12:00	00:00	00:00	20:00
CON/N9001 *Work according to personal health, safety and*	08:00	16:00	00:00	00:00	24:00

environment protocol at construction site **NOS Version No.6.0 NSQF Level 3**					
Follow safety norms as defined by organization, adopt healthy and safe work practices	**08:00**	**16:00**	**00:00**	**00:00**	**24:00**
Total Duration	**120:00**	**280:00**	**00:00**	**00:00**	**400:00**

Module Details

Module 1: Introduction to Assistant Electrician job role

Bridge Module

Terminal Outcomes:

- Explain the role and responsibilities of Assistant Electrician.
- Discuss the career progression for the Assistant Electrician.

Duration: *8:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the role and responsibilities of an assistant electrician. • Define the personal attributes required in occupation of construction electrician works. • Explain future possible progression and career options for role of an assistant electrician.	
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
N/A	

Module 2: Handle hand and power tools relevant to construction electrical works

Mapped to CON/N0602, v.2.0

Terminal Outcomes:

- Use appropriate hand, power tools and electrical devices/ components

Duration: *12:00*	**Duration**: *36:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain basic principle of electrical current flow and fundamental concept of alternate and direct current, voltage, resistance, temperature, cross section of conductors, etc. • Explain Ampere's law, Ohm's law, and electromagnetic field. • Explain the application of tester, mustimeter, digital ammeter etc. • Interpret wiring symbols, SLDs, manufacturer's guidelines and electrical specifications • Discuss use of various electrical hand and power tools such as pliers, crimping tools, electrical drill machines, cutting machines etc. during electrical wiring of house/ building. • Explain type of electrical devices like starters, relays and circuit breakers, their power ratings, working principles and use in circuits. • Describe features of switches, fuses, resistors and various circuit protecting devices and their use in electrical circuits and connections. • Discuss about the electrical measuring/ testing tools and devices such as voltage tester, earth tester, mustimeter, digital ammeter, meggers, tong tester, etc.	• Demonstrate how to check proper and safe working of hand and power tools. • Perform fitting of conduits, cables wiring, fixing of electrical fixtures, electrical connection termination at power outlets, etc. using hand and power tools. • Measure size and dimension of wires, conduits as per electrical installation/ maintenance work requirement using measuring instruments • Perform basic inspections of electrical circuits/ wiring using electrical devices like ammeter, voltmeter, meggers, multi-meter, tong tester, earth tester, etc. • Install electrical components like starter, circuit breakers, relays, etc. • Perform maintenance of electrical tools, devices post use as per manufacturer's guidelines.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Pliers, Screw Drivers (set), Crimping tools, Wire strippers, Neon tester, Ammeter, Voltmeter, Wattmeter, Ohmmeter, Digital Multimeter, Megger, Tong tester, Measuring tape, Spirit level Marking tools, Drilling machine, Cutting machine, Chasing machine, Electrical socket (set), Tungsten bulb/ CFL/FSL bulb, Halogen lamp, wall socket, Simple switchboard, Mains breaker switch, Earth Leakage Circuit Breaker (ELCB), Miniature Circuit Breaker (MCB), Helmet, Face shield, Safety goggles, Safety shoes, Safety belt, Insulated rubber gloves, Ear plugs, Particle masks, Reflective jackets, Safety message boards, Fire extinguishers, Sand buckets	

Module 3: Install temporary lighting arrangement at construction sites

Mapped to CON/N0603, v2.0

Terminal Outcomes:

- Install electrical material components and fixtures for temporary lighting arrangement**.**
- Perform maintenance of lighting arrangement
- Operate basic test on lighting arrangement

Duration: *20::00*	**Duration**: *72:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Interpret Single line diagram (SLD)/ schematics/electrical wiring diagrams for the requirements and specifications of temporary lighting arrangement at the construction site. • Describe types of cables based on insulation, phase and their use as per power rating. • Explain types of conduits and fixtures such as switches, sockets, their selection method and respective uses in electrical works. • Describe types of safety equipment commonly used for protection of LV wiring circuits and their area of application. • Explain standard/ safe practice of cable laying at construction sites such as through underground conduits, through poles. • Describe types of lights units, their wattage and respective use in construction sites. • Explain standard practices of fixing lights and their respective accessories. • Explain type of faults associated with lighting arrangements. • Explain type of tests to be undertaken in lighting units and its accessories such as voltage test, leakage test, power interruption/ continuity test etc. • Explain standard conditions for storing and stacking electrical units, materials, fixtures, tools and devices. • Describe safe procedure of erection and dismantling of temporary scaffolding, ladders or working platforms.	• Perform visual checks on electrical fixtures and materials related to lighting for their usability as per specified acceptance criteria • Select cables, lights and electrical fixtures depending upon electrical load requirement • Perform laying of cables through underground and overhead as per requirement as per SLD/ schematics/ electrical wiring diagram • Perform joining of cable in 'straight through joint' methods using PVC tapes or other safe methods • Demonstrate termination of LV cables as per standard practice • Demonstrate method of tagging electrical cables, underground electrical conduits by standard method • Perform repairing of electrical lighting arrangements. • Demonstrate methods of trace out short circuits, power interruptions/ continuity using appropriate electrical devices • Perform preventive maintenance on diesel generators.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Pliers, Screw Drivers (set), Crimping tools, Wire strippers, Neon tester, Ammeter, Voltmeter, Wattmeter, Ohmmeter, Digital Multimeter, Megger, Tong tester, Measuring tape, Spirit level Marking tools, Drilling machine, Cutting machine, Chasing machine, Electrical socket (set),Tungsten bulb/ CFL/FSL bulb, Halogen lamp ,wall socket ,Simple switchboard ,Mains breaker switch ,Earth Leakage Circuit Breaker (ELCB) ,Miniature Circuit Breaker (MCB),Helmet ,Face shield ,Safety goggles ,Safety shoes ,Safety belt, Insulated rubber gloves, Ear plugs, Particle masks , Reflective jackets, Safety message boards, Fire extinguishers, Sand buckets	

Module 4: Assist in LV (low voltage) electrical wiring at permanent structures

Mapped to CON/N604, v2.0

Terminal Outcomes:

- Lay conduit in RCC and brick/ block masonry
- Perform LV wiring in house electrification work.

Duration: *20::00*	**Duration**: *72:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain type of electrical hazards associated with domestic wiring work, consequence of faulty/ improper wiring works and standard safety control measures. • Describe types of safety equipment commonly used for protection of domestic wiring circuits and their area of application. • Explain type of electrical materials and fixtures such as conduits, raceways, brackets, etc., used for domestic wiring works and their required acceptance criteria for using. • Interpret single phase LV wiring diagram • Describe standard conduit laying and fixing procedure through brick and concrete structures. • Explain standard practices of cable/ wire laying through conduits and tests to be done to ensure there is no breakage/ leakage from the wire. • Explain electrical earthing procedure in domestic wiring and its importance • Describe material, tools and equipment used for electrical earthing works. • Explain test to be performed in domestic electrical wiring works using appropriate measuring devices.	• Perform visual checks on electrical fixtures and materials related to domestic wiring such as conduits, raceways, wires to ascertain their usability as per specified acceptance criteria. • Demonstrate use of measuring instruments and cutting tools such as measuring tapes, markers, cutters to cut and bend conduits • Demonstrate use of hand and power tools for cutting drilling works for proper fixing of conduits and raceways as per wiring drawing. • Demonstrate method of termination of electrical wires/cables. • Perform electrical tests like voltage drop, continuity of current flow and resistance in insulations. • Demonstrate handling and storing electrical fixtures and materials used for domestic wiring. • Perform installation of earthing components.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Pliers, Screw Drivers (set), Crimping tools, Wire strippers, Neon tester, Ammeter, Voltmeter, Wattmeter, Ohmmeter, Digital Multimeter, Megger, Tong tester, Measuring tape, Spirit level Marking tools, Drilling machine, Cutting machine, Chasing machine, Electrical socket (set), Tungsten bulb/ CFL/FSL bulb, Halogen lamp, wall socket, Simple switchboard, Mains breaker switch, Earth Leakage Circuit Breaker (ELCB), Miniature Circuit Breaker (MCB), Helmet, Face shield, Safety goggles, Safety shoes, Safety belt, Insulated rubber gloves, Ear plugs, Particle masks, Reflective jackets, Safety message boards, Fire extinguishers, Sand buckets	

Module 5: Assemble, install and maintain temporary LV electrical panels (distribution boards)

Mapped to CON/N605, v.2.0

Terminal Outcomes:

- Assemble and install temporary LV electrical panels/ distribution boards
- Perform electrical earthing of panel/DB
- Perform maintenance of panels/distribution boards

Duration: *22::00*	**Duration**: *72:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain types of conduits and fixtures such as switches, sockets, MCBs, wire their selection criterias. • Describe method of connection temporary panel/ Distribution boards (DB) with main power outlet. • Describe type of faults associated with temporary electrical panels/ DBs and its accessories. • Explain standard procedure of shifting and installing DBs at different locations. • Explain type of tests to be undertaken in temporary panels/ DBs and its accessories such as voltage test, leakage test, power interruption/ continuity test etc. • Describe methods of trace out short circuits, power interruptions/ continuity using appropriate electrical devices. • Explain electrical earthing procedure in temporary panels and its importance • Explain specification and details of material, tools and equipment used for electrical earthing works. • Explain standard storing and stacking procedures of electrical units, materials, fixtures, tools and devices.	• Interpret SLDs, instructions, safety guidelines, manufacturers 'specifications relevant to assembling of temporary panel/ distribution board (DB). • Determine power rating of fixtures to be used in panel/ DB. • Perform Installation of electrical fixtures such as switches, sockets etc. to the panel/ DB as per circuit load requirement. • Carry out connection of electrical fixtures by electric wires within the panel/DB • Demonstrate electrical earthing of panel/DB • Perform connection of panel/ DB to main power source. • Demonstrate method of termination of cables at panel/DB using appropriate fixtures. • Perform electrical tests to be carried out to inspect proper function of panel/DB using appropriate devices. • Perform repairing and replacement of faulty parts with respect to technical specification and power rating. • Perform preparation of reports, documents regarding repairing/ maintenance at specified formats.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Pliers, Screw Drivers (set), Crimping tools, Wire strippers, Neon tester, Ammeter, Voltmeter, Wattmeter, Ohmmeter, Digital Multimeter, Megger, Tong tester, Measuring tape, Spirit level Marking tools, Drilling machine, Cutting machine, Chasing machine, Electrical socket (set),Tungsten bulb/ CFL/FSL bulb, Halogen lamp ,wall socket ,Simple switchboard ,Mains breaker switch ,Earth Leakage Circuit Breaker (ELCB) ,Miniature Circuit Breaker (MCB),Helmet ,Face shield ,Safety goggles ,Safety shoes ,Safety belt, Insulated rubber gloves, Ear plugs, Particle masks , Reflective jackets, Safety message boards, Fire extinguishers, Sand buckets	

Module 6: Communicate effectively at workplace

Mapped to CON/N8001, v.6.0

Terminal Outcomes:

- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.
- Demonstrate practices sensitive to disabilities (physical, mental, intellectual or sensory impairment), cultural diversity and gender neutrality.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the effects and benefits of timely actions relevant to the task at hand with examples. • Explain the importance of teamwork and its effects relevant to the task at hand with examples. • Explain the importance of proper and effective communication and its adverse effects in case of failure of proper communication. • Discuss about gender and its related concept: gender equality, gender equity (group work) • Discuss different types of disabilities (physical, mental, intellectual or sensory impairment). • Discuss the activities sensitive to the cultural diversity, disabilities and gender neutrality at the workplace. • Discuss the basic rules and regulations related to gender sensitivity, disabilities, and cultural diversity, with their impact on operations of a workplace. • Discuss how to take initiative in resolving issues among co-workers in a given situation. • Discuss reporting procedure followed at the workplace.	• Apply effective communication skills while interacting with co-workers, trade seniors and others during the assigned task. • Use appropriate writing skills and verbal communication reporting as per commonly applicable organisational norms. • Demonstrate teamwork skills during assigned task. • Demonstrate acceptable interpersonal transactions with individuals having disabilities (physical, mental, intellectual or sensory impairment) or cultural diversity. • Demonstrate the process modifications required to make the workplace free from gender biases.
Classroom Aids:	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
Tools, Equipment and Other Requirements	
N/A	

Module 7: Prioritise activities and organise resources

Mapped to CON/N8002, v.5.0

Terminal Outcomes:

- Demonstrate prioritizing of work activities to achieve the desired productivity.
- Demonstrate organizing of resources as per work plan prior to commencement of work.

Duration: *08:00*	**Duration**: *16:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain methods to upkeep, store and stack tools, materials used for domain specific works. • Explain the process of planning of the given tasks and activities relevant to the trade/job role within defined scope and duration. • Explain the procedure adopted for prioritizing an activity and sequencing of activities. • Explain the work plan and flow of activities in sequence for the assigned work. • Explain basic concept of labour productivity and work productivity. • Explain requisition of resources, reporting for requirement of resources orally and in written to concerned authority. • Explain how to minimise wastage of resources. • Explain the plan for waste collection and disposal after task. • •	• Identify the work target and plan activities to achieve the desired productivity. • Demonstrate requisition of resource citing an example. • Demonstrate the planning for various activities relevant to task as per the scope and schedule. • Demonstrate how to organise the required tool, manpower and material resources for the assigned task. • Select required quantity of materials, tools or devices for defined work activities. • Demonstrate how to prioritize all works/ activities to maximise output. • Demonstrate optimum use of resources while performing domain specific work activities. • Demonstrate waste collection and disposal as per organisational norms. • Demonstrate completion of work within stipulated time and plan.
Classroom Aids:	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
Tools, Equipment and Other Requirements	
N/A	

Module 8: Follow safety norms as defined by organization, adopt healthy and safe work practices

Mapped to CON/N9001, v.6.0

Terminal Outcome:

- Identify various hazards at construction site.
- Use PPE's relevant to construction electrical works.
- Perform safe waste disposal at construction site.
- Demonstrate the activities to check the spread of infection as per medical/ organizational guidelines.

Duration: *08:00*	**Duration**: *16::00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the types of hazards at the construction sites and identify the hazards specific to the domain related works. • Recall the safety control measures and actions to be taken under emergency situation. • Explain the classes of fire and types of fire extinguishers. • Explain the importance of participation of workers in safety drills. • Explain the reporting procedure to the concerned authority in case of emergency situations. • Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories. • Explain different types of waste at construction sites and their disposal method. • Explain the purpose and importance of vertigo test at construction site. • List out basic medical tests required for working at construction site. • Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites. • Explain the importance of housekeeping works. • List different types of infectious disease that can spread/ originate at a construction site • Discuss the ways of transmission of the various infectious disease. • Explain the methods to check the spread of the infectious disease.	• Demonstrate the operating procedure of the fire extinguishers. • Demonstrate use of PPEs as per work requirements. • Demonstrate vertigo test. • Demonstrate safety techniques to be adopted in case of accidents. • Demonstrate safe waste disposal practices followed at construction site. • Demonstrate safe housekeeping practices. • Demonstrate the practices to maintain personal hygiene, workplace hygiene and site/ workplace sanitization. • Demonstrate the methods to clean and disinfect all materials, tools and supplies before and after use. • Demonstrate the procedure to report to the concerned authority regarding the outbreak/ hazard of any infectious disease/ pandemic.

• Describe the symptoms and cure of the various infectious disease.	
Classroom Aids:	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
Tools, Equipment and Other Requirements	
Leather Hand Gloves, Jump suit, Wire brush, Hand & Leg guard leather, Safety goggles, Nose mask, Ear protection, Fire extinguishers, Sand buckets Flashback arrestors, Welding helmet, Welding glass, Fire Extinguisher, Fire prevention kit, First Aid box, Safety tags, Safety Notice board	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Post-Graduation/ Graduation in Engineering	M. Tech in Civil/B. Tech in electrical	One	electrical	0	electrical	As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However, if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience.
Diploma	Diploma in electrical	Two	electrical	0	electrical	
Graduation/ Ex. Army /ITI /12th pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12th pass	Four	Working experience as construction electrician / supervisory work experience in electrical domain	0	Working experience as construction electrician / supervisory work experience in electrical domain	

Trainer Certification	
Domain Certification	**Platform Certification**
Trainer- 70 % in each NOS of Qualification Pack "Assistant Electrician, CON/Q0602 v2.0" & 80% overall.	Trainers - 80% in each NOS of Qualification Pack "Trainer MEP/Q2601, v1.0"and 80% overall.

Assessor Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Post-Graduation/ Graduation in Engineering	M. Tech in Civil/B. Tech in electrical	Two	electrical	0	electrical	As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However, if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience.
Diploma	Diploma in electrical	Four	electrical	0	electrical	
Graduation/ Ex. Army /ITI /12th pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12th pass	Five	Working experience as construction electrician / supervisory work experience in electrical domain	0	Working experience as construction electrician / supervisory work experience in electrical domain	

Assessor Certification	
Domain Certification	**Platform Certification**
Assessor- 70% in each NOS of Qualification Pack "Assistant Electrician, CON/Q0203 v2.0" & 80% overall	Assessors- 80% in each NOS of Qualification Pack "Assessor MEP/Q2701, v1.0"and overall 80%.

Assessment strategy

Assessment system Overview

Assessment is done through CSDCI affiliated Assessment Body. Assessors are trained & certified by CSDCI after a 10-day training of assessor's program. Assessments is conducted to gauge and assess the trainee's skill and knowledge competency in the specified areas. The assessment will have both theory and practical components in 30:70 ratios for Assistant Electrician job role

During the practical task, trainees are assessed on their workmanship, quality of finished product and time management. They will be graded for all their assessments based on the approved assessment strategy which is signed off by CSDCI. The Assessor submits an assessment plan to CSDCI prior to assessments

The assessment plan contains the following information:

- What will be assessed, i.e. the competency based on each NOS based on theory and practical questions
- How assessment will occur i.e. methods of assessment
- When the assessment will occur
- duration of assessment
- Where the assessment will take place i.e. context of the assessment (workplace/simulation)
- The criteria for decision making i.e. those aspects that will guide judgments and
- Where appropriate, any supplementary criteria used to make a judgment on the level of performance.

Testing Environment

Training partner shares the batch start date and end date, number of trainees and the job role.

Assessment will be fixed for a day after the end date of training. It could be next day or later. Assessment will be conducted at the training venue/test center.

The knowledge/theory assessments are conducted with proper seating arrangements with enough space between the candidates to prevent copying.

Question set for theory and practical will be distributed to each candidate by the Assessor. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on his theoretical knowledge of the subject. The skill /practical assessments will be conducted in the approved test centers. The Assessment agency/ Assessor will ensure adequate tools and materials are available to conduct the practical test.

The theory and practical assessments will be carried out on same day. If number of candidates are more than 20, more assessors will be organized on same day to complete the assessment

The assessment has to comprise of two components, namely:
1. Knowledge assessment (theory/viva assessment)
2. Skill assessment (practical/hands-on skill assessment)

Performance/skill assessment: The performance/skill assessment will be conducted through demonstration/practical

For the practical test trainees are assessed through a given task, which they have to complete correctly for them to be marked as passed.

The assessment is 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**.**

Knowledge Assessment: The knowledge assessments are conducted through written test

Synoptic test is used for this. It is an MCQ (Multiple Choice Question) test which are prepared externally and externally marked, meaning by agency having no link with training partners. 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 to CSDCI.

The assessment strategy, weightage and duration of assessment for assessment Electrician is summarized below

Assessment				
Assessment Type	**Formative or Summative**	**Strategies**	**Weightage**	**Duration**
Theory	Summative	Written Examination	30	1.5
Practical	Summative	Structured practical tasks	70	5.5

Assessment Quality Assurance framework

CSDCI has developed assessment criteria framework for each Qualification pack as per National Occupational Standards. The criteria framework includes weightages/marks for each criteria under knowledge and skill. This criteria ensures quality assurance as it ensures valid, consistent and fair assessments at all locations. Issued to the affiliated Assessment body. The Assessment body develop questions based on CSDCI issued assessment criteria. Evidences in the form of answer sheets in case of knowledge assessments are collected. For skill assessments videos and photographs are prepared as evidence. These are submitted by the assessor to the assessment agency. CSDCI does random checks of the same with the participant/ trainee's ID and ascertains authenticity and validity of assessments. The training partner will intimate the time of arrival of the assessor and time of leaving the venue. Random spot checks/audit is conducted by CSDCI to monitor assessment

Methods of Validation

Unless the trainee is registered, the person cannot undergo assessment. To further ensure that the person registered is the person appearing for assessment, ID verification is carried out. Aadhar card number is part of registering the candidate for training. This forms the basis of further verification during the assessment.

Assessor conducts the assessment through theory and practical questions developed in accordance with the assessment criteria and guidelines issued by CSDCI. This too is verified by random audits carried out by CSDCI.

Video of the practical session is prepared and submitted to CSDCI for verification as per demand.

Assessment agency is responsible to put details in SIP. CSDCI will also validate the data and result received from the assessment agency.

Method of assessment documentation and access

The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by CSDCI assessment team. After upload, only CSDCI can access this data.
CSDCI approves the results within a week and uploads it on SIP.

References

Glossary

Term	Description
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do **upon the completion of the training**.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do **upon the completion of a module.** A set of terminal outcomes help to achieve the training outcome.
CON	Construction
MCQ	Multiple Choice Questions
VIVA	Viva voce (means oral exam)

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
CSDCI	Construction Skill development Council of India
MCQ	Multiple Choice Question
PPEs	Personal Protective Equipment
SIP	Skill India Portal
LV	Low Voltage
MS	Mild Steel
LED	Light Emitting Diode
AC	Alternate Current
DC	Direct Current
MCB	Miniature Circuit Breaker
ELCB	Earth Leakage Circuit Breaker
RCCB	Residual Current Circuit Breaker