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Title A: Perform SAFETY PRECAUTIONS

Overview: This competency standard identifies theknowledgeand skills required to meet safety standards in order to facilitate a safe working environment.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
A1: Apply workplace health, safety and security requirements	**Assessee must be able to:** **P1.** Maintain safe working environment. **P2.** Use and maintain machinery, equipment, appliances and tools in a safe working condition.	**Assessee must know and understand:** **K1.** Voltage, current, resistance, power, energy and their electrical units **K2.** Laws of resistance **K3.** Types of main switches **K4.** OHS precautions when switching off main supply **K5.** Use of tester **K6.** Access information relating to Health and Safety issues **K7.** Issues which may arise during work when main supply is powered on	

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
		K8. Requirements for a safe working environment **K9.** Safe maintenance procedures for machinery, equipment, appliances and tools **K10.** Preventative safety measures for machinery, equipment and tools.	
A2: Perform workplace health, safety and security procedures	**Assesse must be able to:** **P1.** Report hazardous situations, fatalities, injuries and illness to the appropriate person **P2.** Identify, control and minimise risks to prevent injury or illness **P3.** Wear safety gloves and safety shoes in accordance with safety procedures **P4.** Place safety gloves at appropriate location after each	**Assesse must know and understand:** **K1.** Hazard Identification processes **K2.** Risk assessment and control processes **K3.** Precautionary measures and their use to prevent health damages **K4.** Importance of insulated gloves and shoes in work environment **K5.** Types of safety gloves for work on high and low tension lines	1- Safety gloves 2- Safety shoes 3- Dangree / Apron 4- Hard Hat 5- Ear Muffs / Plugs 6- Goggles 7- Dust Mask

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
	use.	**K6.** Use of different safety gloves and safety shoes for an electrician **K7.** Issues which may arise if using damaged safety gloves	
A3: Maintain safe work area	**Assessee must be able to:** **P1.** Perform operations relating to cables safely **P2.** Install electrical devices at a manageable distance in accordance with safety procedures **P3.** Handle sharp tools safely and correctly **P4.** Maintain safe distances between self and machinery, and machine-to-machine **P5.** Use correctsize accessoriesand	**Assessee must know and understand:** **K1.** Importance of safe working environment **K2.** Work ethics **K3.** Use and handling of electrical equipment **K4.** Precautions to prevent electrical hazards or shocks **K5.** Difference between insulated and conductive tools **K6.** Importance of using insulated tools **K7.** OHS precautions when using insulated tools	1- Safety gloves 2- Safety shoes 3- Dangree / Apron 4- Sharp edge tools

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
	tools.	**K8.** Hazards of using unsafe tools	
A4: Handle with emergency situations as per SOP	**Assessee must be able to:** **P1.** Perform rescue procedure in case of hazard **P2.** Operate nearest main switchin case of emergency **P3.** Ensure safety of everyone in emergency situations **P4.** Perform first aid treatment	**Assessee must know and understand:** **K1.** First aid treatment for electric shock **K2.** Rescue requirements in emergency situations **K3.** Location of nearest first aid box and main switch. **K4.** Location and identity of trained First Aid Responder	1- First aid treatment procedure chart. 2- First aid box.

Title B: PERFORM ELECTRICAL MEASUREMENTS

Overview: The competency standard is about taking the electrical measurements and utilization ofdifferent measuring instruments, by using the knowledge of connection and reading techniques regarding different electricalinstruments.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
B1: Identification of different electrical instruments	**Assessee must be able to:** **P1.** Identify volt meter. **P2.** Identify ammeter. **P3.** Identify single and three phase energy meter. **P4.** Identify megger. **P5.** Identify multi-meter **P6.** Identify Tong Tester	**Assessee must know and understand:** **K1.** Need of measuring instruments **K2.** Measuring units of different electrical quantities.	1- Voltmeter 300V, 600V 2- Ammeter 30A 3- Single phase energy meter 230V, 40A 4- Three phase energy meter 400V, 60A 5- Megger battery operated 500V 6- Multimeter digital &Analog 7- Tong Tester

B2: Connect different electrical instruments	**Assessee must be able to:** **P1.** Connect volt meter in parallel. **P2.** Connect ammeter in series or through CT (Current Transformer) **P3.** Connect single and three phase energy meter. **P4.** Perform Testing through megger.	**Assessee must know and understand:** **K1.** Method of connection of different meters **K2.** Function of measuring instruments **K3.** KnowledgeWiring testing instruments	1- Voltmeter 300V, 600V 2- Ammeter 30A 3- Single phase energy meter 230V, 40A 4- Three phase energy meter 400V, 60A 5- Megger battery operated 500V 6- Single phase load 7- Three phase load 8- Current transformer
B3- Interrupt different electrical instruments	**Assessee must be able to:** **P1** AdjustZero adjustment of measuring instruments **P2** Stand in proper position beside instrument for reading the needle position on the scale. **P3** Take & record reading of instruments	**Assessee must know and understand:** **K1.** Importance of zero adjustment **K2.** Common errors in reading measuring instruments **K3.** Division of measuring scales and selector switch	1- Voltmeter 300V, 600V 2- Ammeter 30A 3- Single phase energy meter 230V, 40A 4- Three phase energy meter 400V, 60A 5- Megger battery operated 500V 6- Single phase load 7- Three phase load

			8- Phase tester 9- Test Boy 10-Current transformer

Title C: PERFORM HANDLING OF ELECTRICAL HAND TOOLS

Overview: The competency standard is about identification & proper handling (clean and store after use) of electrical hand tools used in Domestic Wiring Installation.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
C1:Identification of different hand tools used in domestic wiring.	**Assesseemust be able to:** **P1**. Identify different types of pliers **P1.** Identify different types of screw drivers **P2.** Identify different tools used for removing insulation **P3.** Identify different measuring tools **P4.** Identify different cutting tools **P5.** Identify different marking and fitting tools.	**Assessee must know and understand:** **K1**. Various types of hand tools used in domestic wiring **K2.** Classification of hand tools used in domestic wiring. .	1- Combination plier 2- Flat nose plier 3- Round nose plier 4- Side cutter 5- Insulation remover 6- Hand hacksaw 7- Different screw drivers 8- Electrician knife 9- Hammer 10-Bradawl 11-Try square 12-Measuring tape 13-Sprit level

			14-Different chisels 15-Wire stripper 16-Steel rule 17-Different Files (Flat, round & rasp cut) 18-Rubber hammer 19-Micro meter 20-Standard wire gauge
C2: Apply different domestic wiring hand tools	**Assessee must be able to:** **P1.** Perform different tasks with plier **P2**. Tight / untighten different screws with screw driver **P3.** Remove insulation of cable using different insulation remover tools **P4**. Measure length of cable with different measuring tools **P5.** Perform cutting in wall using different cutting tools **P6** Clean and store different	**Assessee must know and understand:** **K1.** Different uses of plier **K2.** Difference between screw driver & Phillips screw driver. **K3.** Precautions observed during using of different tools. **K4.** Precautions observed during cutting wall. **K5** Importance of cleaning, inspecting and storing tools after use	1- Combination plier 2- Flat nose plier 3- Round nose plier 4- Side cutter 5- Insulation remover 6- Different screw drivers 7- Electrician knife 8- Hammer 9- Try square 10-Measuring tape 11-Different chisels 12-Wire stripper

	domestic wiring tools after use P7. Store different domestic wiring tools as per SOP		13-Steel rule

Title D: PERFOM HANDLING OF WIRES AND CABLES

Overview: The competency standard is about handling of wires and cables jointing.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
D1: Perform of wire and cables	**Assessee must be able to:** **P1.** Select proper tool for stripping **P2.** Strip the wire **P3.** Strip the cable	**Assessee must know and understand:** **K1.**Explain Preventive measures adopted during stripping the wire **K2.** ExplainPreventive measures adopted during stripping the cable	1- Wire stripper 2- Electrician knife 3- Insulation remover
D2: Perform of eyes	**Assessee must be able to:** **P1.**Select proper tool **P2**. Remove insulation of 1/0.044″ PVC insulated cable **P3.**Made eyes of proper size of 1/0.044″ PVC insulated cable.	**Assessee must know and understand:** **K1.** Needs of eyes **K2.** ExplainPrecautions observed in removing insulation **K3.**ExplainPrecautions observed in making eyes.	1- Flat nose plier 2- Round nose plier 3- Long nose plier 4- Wire stripper 5- Electrician knife 6- Insulation remover

D3: Perform of different cable joints	**Assessee must be able to:** **P1.** Select proper tool **P2.** Select proper size of cable **P3.** Remove insulation **P4.** Makemarried joint of 7/0.0029″ PVC insulated cable. **P5**. Make Tee joint of 7/0.0036″ PVC insulated cable. **P6**. Make Britannia joint of 18/0.0064″ bare cable.	**Assessee must know and understand:** **K1.** Needs of cable jointing **K2.** Explain Steps of jointing **K3.** Explain Precautions observed in removing insulation **K4.** Explain Precautions observed in making joints. **K5.**Describe Issues regarding loose joint	1- Flat nose plier 2- Round nose plier 3- Long nose plier 4- Wire stripper 5- Electrician knife 6- Insulation remover

Title E: PERFORMDOMESTIC WIRING

Overview: The competency standard is about interpretation of electrical drawing of a Domestic Wiring Installationto identify different electrical points and to utilize the knowledge of fixing techniques regarding different installation circuits.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
E1: Collect job documentation	**Assessee must be able to:** **P1.** Identify the area / person to collect the job documentation. **P2**. Collect the appropriate job documents.	**Assessee must know and understand:** **K1.**Describe Various types of job documentation (e.g. drawing, map, history). **K2.** Define Electrical symbols used in drawing/ building map.	1- Drawing 2- Map 3- History sheet 4- Electrical symbols chart
E2: Interpret Locate electrical points as per drawing	**Assessee must be able to:** **P1**. interpret the drawing **P2.**Identify location of different types of electrical points as per job document. **P3.**Verify location of different	**Assessee must know and understand:** **K1.** Explain Different types of drawing **K2.** DefineSymbols for different electrical points **K3.** DescribeTagging techniques.	1- Drawing 2- Map 3- History sheet 4- Electrical symbols chart 5- Different tags

	types of electrical points as per job document. **P4.**Apply tags to the different electrical points.		
E3: Prepare different basic electric circuits	**Assessee must be able to:** **P1.**Make single pole switch circuit. **P2.**Make two way switch circuit **P3.**Control two lamps with multi switch circuits **P4.**Make florescent lamp circuit **P5.**Make series, parallel testing board **P6.**Make trembler bell circuit **P7.**Make time switch circuit	**Assessee must know and understand:** **K1.** Explain different techniques toDraw single pole switch circuit **K2.** Explain different techniques toDraw two way switch circuit& its uses **K3.**Explain different techniques toDraw circuit to control two lamps with multi switches & its uses. **K4.**Explain different techniques to Draw florescent lamp circuit and importance of choke & starter. **K5.**Explain theImportance of series board and draw its circuit. **K6.**Explain different techniques toDraw trembler bell circuit & its uses. **K7.**Explain different techniques toDraw time switch circuit & its uses.	1- Screw driver 2- Bradawl 3- Flat nose Plier 4- Long nose plier 5- Wire stripper 6- Tester

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
E4:PrepareInstallation layout for building	**Assessee will be able to:** **P1.** Perform installation of kitchen. **P2.** Perform installation of drawing room **P3.** Perform installation of living room **P4.** Perform installation of sleeping room. **P5.** Perform installation of Hall **P6.** Perform installation of Single Phase energy meter **P7.** Perform installation of three phase energy meter	**Assessee must know and understand:** **K1.**Explain how toInterpret electrical drawing **K2. Explain** Different factors to be considered in installation planning. **K3**. Describe various Measuring techniques. **K4.**Describe variousInstallation process. **K5.**Explain Preventive measures to be observed in installation process	1- Screw driver 2- Bradawl 3- Flat nose Plier 4- Long nose plier 5- Wire stripper 6- Tester 7- Hammer 8- Chisel 9- Grinder 10-Hand drill machine 11-Adjustable ladder

Title F: Perform EARTHING

Overview: The competency standard identifies the method of earthing and measurement of earthingresistance.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
G1: Perform Earthing	**Assessee must be able to:** **P1.** Identify earthing point. **P2.** Draw earth circuit. **P3.** Select size of earth wire. **P4.** Connect earth wire. **P5.** Measure earthing resistance.	**Assessee must know and understand:** **K1.** Importance of Necessity of earthing. **K2.** Enlist components of earthing. **K3.** Explain Maximum limit of earthing resistance. **K4.** Describe Methods to reduce earth resistance.	1- Earth resistance tester 2- Micro meter 3- Standard wire gauge

TitleG: DEVELOP PROFESSIONALISM

Overview: The competency standard identifies the attitudes, approach, skills, required to grow/ develop in a worker such as knowledge and skills, and learning gained through experience.

Competency Unit	Performance Criteria	Knowledge and Understanding	Tools & Equipment Required
G1: Keep the workplace clean	**Assessee will be able to:** **P6.** Keep own workplace organised. **P7.** Ensure clean working environment.	**Assessee must know and understand:** **K5.** Explain Effective and efficient organisation of work area **K6.** Describe Requirements of a clean and organised workplace	
G2: Work in a team	**Assessee will be able to:** **P1.** Present an appropriate appearance. **P2.** Show comfort and tolerance of others **P3.** Present and observe work ethics for workplace	**Assessee must know and understand:** **K1.** Explain Importance of being a good team player **K2.** Demonstrate team skills. **K3.** Describe Workplace requirements for dress and appearance **K4.** Identify Work ethics of the workplace	