**Annexure- 1**

**Model Curriculum**
**Helper-Wireman**

| **Course/Job Role** | **Particulars of Duration (In Hours)** | |
|---|---|---|
| Helper-Wireman | | **2-3 hours per day** |
| | **Total: 240 Hrs**<br><br>**Theory 60 Hrs**<br>**Practical: 120 Hrs**<br>**Employability Skills: 60 Hrs** | |

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| **Minimum Educational qualification** | 5th Pass |
| **Minimum age** | 18 years |

**COURSE OBJECTIVES**

After completion of the course, the trainees should be able to:

1. Gain knowledge of the fundamental laws of electricity.
2. Know about tools, equipment and materials used in electrical work.
3. Know about types of wires, conductor and insulator/protection device used in wiring.
4. Have knowledge and skills about How to install, testing & repair of Busbar Earthing Connection, single & three phase wiring.
5. Establish their own shop/ venture in the local market and also get exposure to employability skills including Life Enrichment Education.

**COURSE STRUCTURE**

**Knowledge Domain**

1. Various types of domestic electrical wiring Installations and maintenance and repair work.
2. Use of appropriate tools related to electrical work
3. Process and electrical safety rules
4. Repair or replace electrical equipment and fixtures

**Skill Domain**

1. Good quality electrical tools to work on electrical wiring and protection device I.E fuse, MCB, ELCB, RCCB, ETC.
2. Communication skills to handle the customers problem in time
3. Timely rectification of the problem/issue
4. Negotiation skills

**Trainers Qualification:** ITI/Certificate course with minimum 2 years of experience in the relevant job role.He/She should have knowledge of equipment, tools, materials, safety, health & hygiene. He/She may also be well versed with the employability skills etc.

**Tools and Equipment**

1. Combination plier 150 mm.
2. Insulated screwdriver
3. Wire cutter
4. Neon tester
5. Electrical tape, PVC Tape
6. Electric drill machine 12mm 10 mm
7. Hammer ball peen
8. Nose plier
9. Crimping tool
10. Adjustable hacksaw frame with blade.
11. Spanner set
12. Half round file
13. Triangular file
14. Full round file
15. Standard wire Gauge (S.W.G)
16. Multi meter
17. Megger
18. Voltmeter (AC/DC)
19. Ammeter (AC/DC)
20. Flat file
21. Ohm meter

**Helper-Wireman**

**National Occupational Standards**

1. Introduction to the trade / job role
2. Safety precautions and first-aid and electrical safety Rulesas per Indian Electricity Rules(IE Rules)
3. Knowledge about toolsand equipment's used in wiring in domestic and industrial areas and their fault detection
4. Types of wires, conductor and insulator/protection devices used in wiring
5. Installation, Testing &Repair of Busbar,Earthing Connections, Single &Three Phase Wiring, Protection Device i.e. MCBs, ELCBs, RCCB etc.
6. Knowledge of estimation & costing of Wiring, and redressal of customer complaints
7. Market Exposure
8. Employability Skills including Life Enrichment Education

**Course Curriculum and Content aligned with NOS**

**1. Introduction to the trade / job role**

Topic Introduction on Helper-Wireman Course and JSS Scheme

| **Topic** | **Introduction to JSS Scheme and Helper-Wireman course** |
|---|---|
| Content | • Introduction to JSS Scheme<br>• Introduction to the course 'Helper-Wireman'<br>• Job prospects in local market. |
| Methodology | Teaching demonstration and use of printing materials. Field visit to local work site in commercial and domestic sectors. |
| Expected Learning Outcomes | • Knows about the JSS scheme.<br>• Understands the relevance of the course "Helper-Wireman" in income-generation |
| **Total Hours** | **3 Hours** |

**2. Safety precautions and first-aid and electrical safety Rules as per Indian Electricity Rules(IE Rules)**

| **Topic** | **Preventive measures for electric shock, First Aid / Treatment for Electric Shocks** |
|---|---|
| Content | • Use of insulated tools while working.<br>• Use of PPE (Personal Protective Equipment such as Safety Gloves, Safety Helmet, Safety Shoes etc)<br>• First Aid in case of electrical shocks and emergencies<br>• How to work on electrical device i.e., Always turn off the main supply before working on electrical device<br>• Discuss about in Indian electricity rules. |
| Methodology | • Demonstration of Personal Protective Equipment for Hands, Feet, Eyes, Head<br>• Insulation and uses of Rubber Gloves<br>• Electric Shock Treatment (demonstration) etc.<br>• Explanation about Indian Electricity Rules. |

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| Expected Learning Outcomes | • The trainee will be able to take preliminary care.<br>• The trainee will be able to provide first aid in case of electric shocks<br>• Comply with Safety Rules (I.E RULE) while performing the wiring in domestic/industrial.<br>• Knows about tools and measuring instruments and is able to use them properly.<br>• Understands the importance of taking necessary safety precautions while using the electrical tools and equipment. |
| **Total Hours** | **12 Hours** |

**3. Knowledge about tools and equipment used in wiring in domestic and industrial areas and their fault detection**

| **Sub Topic 1** | **Description and specification of different Tools and Equipment used in domestic wiring and industrial areas and their fault detection.** |
|---|---|
| Content | • Identification of Tools.<br>• Details of various electric accessories and their specifications.<br>• Use of tools<br>• Care and maintenance of tools<br>• Understand proper installation & maintenance of electrical accessories. |
| Methodology | • Familiarization with tools<br>• Tools name and their uses<br>• Demonstration of different electrical tools and equipment through pictures.<br>• Demonstration of use of electrical tools, equipment and fixture. |
| Expected Learning Outcomes | • Understands proper use of electrical tools, equipment and accessories.<br>• Familiarity with tools, their names and working system<br>• Understand to use different tools of electricity and know lay-arrangement of tools<br>• Understand the proper installation of electrical accessories. |
| **Total Hours** | **30 Hours** |

**4. Types of wires, conductor and insulator/protection devices used in wiring**

| **Sub Topic 1** | **Types of wires, conductor and insulator/protection devices used in wiring** |
|---|---|
| Content | • Types of electrical wiring systems.<br>• Types of wires.<br>• Types of protection devices.<br>• Types of conductors and insulators. |
| Methodology | • Demonstrate lectures and presentation on types of electrical wiring. |

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| | • Wiring preparation |
| Expected Learning Outcomes | • Learn how to use different types of tools and equipment in wiring<br>• Understand voltage/current ratings of electrical equipment i.e. Fuses, Capacitor, Wires, Switches/Sockets etc.<br>• Inspect fault locating in electrical equipment i.e. Fuses, Capacitor, Wires, Switches/Sockets etc. |
| **Total** | **24 Hours** |

**5. Installation, Testing &Repair of Busbar, Earthing Connections, Single & Three Phase Wiring, Protection Device i.e. MCBs, ELCBs etc.**

| **Topic** | **Installation, Testing & Repair of Busbar, Earthing Connections, Single & Three Phase Wiring, Protection Device i.e. MCBs, ELCBs** |
|---|---|
| Content | • How to installation & Testing & repair of Busbar<br>• Types of earthing connections,<br>• Single and three phase wiring.<br>• Types of protection device.<br>• Identification of fuse wires and circuit breakers earth wire.<br>• Use of Meggar test lamp and Multimeter for doing continuity tests, at different places<br>• Dismantling and assembling of a table fan (changing brush, regulator capacitors switch. |
| Methodology | • Lecture , demonstration and practical.<br>• Supported with visual/diagrammatic presentation |
| Expected Learning Outcomes | • Knows how to install, test and repair of Bus Bar<br>• Able to understand, the types of earthing system i.e. G.I. pipe earthing and plate earthing & their installation & test<br>• Understand, installation, maintenance and repair of Single-Phase and Three-Phase Wiring.<br>• Understand, installation and maintenance of Protection Derives of Wiring i.e. MCBs, ELCBs, RCCBs, MCCBs etc. |
| **Total Hours** | **84 Hours** |

**6. Knowledge of estimation & costing of wiring, and redressal of customer complaints**

| **Topic** | **Knowledge of estimation & costing of wiring, and redressal of customer complaints** |
|---|---|
| Content | • Estimating and costing of domestic and Industrial wiring I.E Rules and ISI symbols.<br>• ISI symbols, estimation & costing, calculation and I.E Rules.<br>• How to attend customer complaint.<br>• Knowledge of Consumer Protection Act. |
| Methodology | • Lecture, discussion and presentation |

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| Expected Learning Outcomes | • Know about basic estimation & costing of material required in Wiring<br>• Knows about how to handle customer complaints and provide their solution. |
| **Total Hours** | **21 Hours** |

**7. Market Exposure:** Visit to Local market as well as RWAs to know how to become a self-employed Helper-Wireman. Familiarize with actual local industry/domestic requirements.

| **Topic** | **Market Exposure** |
|---|---|
| Content | Exposure to local manufacturing/testing/assembling units or service centres /repair shop/RWAs |
| Methodology | Market survey/ Visit to local sites |
| Expected Learning Outcomes | Trainee will be able to set up their own service centre/ shop/venture |
| **Total Hours** | **06 Hours** |

**8. Employability Skills including Life Enrichment Education: 60 Hours**

60 Hours of employability skills including Soft Skills / Financial/Digital literacy, e-market places, maintain book of records, record keeping, inculcating national and social values is included in the course curriculum of Helper-Wireman. Employability skills enables the beneficiaries in setting up their own service centre/repairing shop/venture etc.