

**Syllabus Assistant Electrician (Distribution)**

<b>Course Name</b>	<b>Assistant Electrician (Distribution)</b>
<b>Course Code</b>	<b>POW/2023/ASED/151</b>
<b>Sector</b>	<b>POWER</b>
<b>Level</b>	<b>3</b>
<b>Occupation</b>	Assistant Electrician – Distribution/Domestic
<b>Job Description</b>	Electrification in rural and urban areas. Servicing and maintenance of the distribution line components and street lighting.
<b>Course Duration</b>	<b>Total Duration 390 Hrs (T-90, P-180, OJT-60 and ES-60)</b>
<b>Trainees' Entry Qualification</b>	Grade 10 OR Grade 8 with two year of (NTC/ NAC) after 8 <sup>th</sup> OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
<b>Trainers Qualification</b>	B.E./B.TECH IN ELECTRICAL ENGINEERING / DIPLOMA IN ELECTRICAL ENGINEERING / ITI IN ELECTRICIAN TRADE. 2 YEARS FOR BE/B.TECH, 3 YEARS FOR DIPLOMA , 5 YEARS FOR ITI .

**Structure of Course:**

<b>Module No.</b>	<b>Module name</b>	<b>Outcome</b>	<b>Theory (Hrs)</b>	<b>Practical (Hrs)</b>	<b>Total (Hrs) [Multiple of 30]</b>
1	Single phase and Three phase systems	Recognize single phase and three phase AC distribution systems and its components.	10	20	30
2	Power factor improvement devices	Identify power factor improvement devices in A.C. distribution systems.	10	20	30
3	Low voltage Distribution System	Able to identify different materials used in Low voltage Distribution System.	10	20	30
4	Overhead distribution system	Explain and perform different elements of work related to erection of components of an overhead distribution system.	10	20	30

5	Installation of Street lighting	Explain work related to installation of Street lighting.	10	20	30
6	Installation of Distribution Transformer and their components	Identify different components related to installation of Distribution Transformer (upto 100 KVA).	10	20	30
7	Service Connection Operations	Execute work related to service connections for domestic and commercial purposes.	10	20	30
8	Calculating the cost of electricity	Calculate cost of electricity for domestic / commercial consumer from meter reading.	10	20	30
9	Workplace Safety	Explain safety precautions to be taken while working on distribution lines.	10	20	30
10	<b>OJT</b>			60	60
11	<b>Employability Skill</b>		60	--	60
<b>TOTAL:</b>			150	240	390

**SYLLABUS:****Module No. 1:** Single phase and Three phase systems

**Outcome:** Recognize single phase and three phase AC distribution systems and its components.

**Theory Content:**

- 1.1 Interpret the structure of power transmission in rural area.
- 1.2 Define standard Low, Medium, High & Extra high voltage.
- 1.3 Define power in AC transmission systems. Use the expressions for power calculation.
- 1.4 Differentiate the criteria between single phase & 3-phase supply lines.
- 1.5 Interpret the criteria of 3-phase balanced & unbalanced load and their use in practical circuits.
- 1.6 Identify 3-phase 3-wire & 3-phase 4-wire system and distinguish them.
- 1.7 Classify the types of transmission line according to distance. Interpret the criteria of each line.
- 1.8 Identify physically different transmission line components and their effects in transmission line performance.

**Practical Content:**

- 1.1 Draw the layout diagram of the low voltage transmission line installation & make a list of materials for the scheme.
- 1.2 Draw the layout diagram of the medium voltage transmission line installation & make a list of materials for the scheme.
- 1.3 Know the procedure of installation of low and medium voltage transmission line in rural area. Apply it in practical field.

**Tools & Equipment needed:****Module No. 2:** Power factor improvement devices

**Outcome:** Identify power factor improvement devices in A.C. distribution systems.

**Theory Content:**

- 2.1 Differentiate between feeder & distributor.
- 2.2 Recognize the types of A.C Distribution - Primary & Secondary distribution System and their application.
- 2.3 Identify overhead and underground distribution system and their place of application.
- 2.4 Identify different schemes of distribution system - Radial, Ring main, Interconnected system. Know the characteristics of each system and place of application.
- 2.5 Explain the importance of load power factor improvement.
- 2.6 Identify power factor improvement equipments and their specifications.

**Practical Content:**

- 2.1 Draw and explain lay out diagram for Radial distribution system.
- 2.2 Draw and explain lay out diagram for Ring main distribution system.
- 2.3 Draw and explain lay out diagram for Interconnected system.
- 2.4 understand the connections of power factor improvement equipments. Apply it in practical field.

**Tools & Equipment needed:****Module No. 3:** Low voltage Distribution System

**Outcome:** Able to identify different materials used in Low voltage Distribution System.

**Theory Content:**

- 3.1 Identify different types of Pole, Towers, X-arms, Timbers, Sky pin, Arm pin, Clevis for transmission & Distribution System.
- 3.2 Identify different types of insulators- Pin, Strain, Disc, Shackle, Gay. Understand the construction of each type and their place of applications in power line.
- 3.3 Recognize size & types of conductors and its application in transmission & distribution system. Know the specification of the conductors for procurement.
- 3.4 Identify guying materials, anchoring materials, different connectors, lightning arrester. Understand the operation and specification of each item and their place of applications.
- 3.5 Identify and specify different types of fuses, isolators. Know the construction and operation of each item. Use the devices in practical field.
- 3.6 Explain the constructional difference of overhead and underground cable.

**Practical Content:**

- 3.1 Know the fixing method of various Nuts & Bolts that are used for transmission line erection.
- 3.2 Install panel board of low voltage distribution.
- 3.3 Identify the faults in the panel board of low voltage distribution and repair it with specified components.

**Tools & Equipment needed:****Module No. 4:** Overhead distribution system

**Outcome:** Explain and perform different elements of work related to erection of components of an overhead distribution system.

**Theory Content:**

- 4.1 Select the parameters for site & route selection for erection of transmission line.
- 4.2 Make a fixture to survey line route of transmission system.
- 4.3 Make arrangements for fixation of pole of overhead lines. Follow the I.E rules for selection of pole locations and pole height.

- 4.4 Understand the erection procedures of pole, Stay wire, Cross arm, Insulators etc.
- 4.5 Select conductor material for transmission line as per I.E. rules.
- 4.6 Earthing of all metal supports of overhead lines as per I.E. rules.
- 4.7 Explain methods of plate and pipe earthing.
- 4.8 Identify different tools & equipment for erection and testing of overhead transmission lines.

**Practical Content:**

- 4.1 Understand the procedure of making different types of Joints and Jumper as per I.E. rules. Apply them in practical field.
- 4.2 Know the calculation of sagging of transmission line. Apply the method in practical field.
- 4.3 Conductor Spacing, Line Guard materials & their fixing as per I.E. rules.
- 4.4 Make arrangements for installation of different types of overhead insulator.

**Tools & Equipment needed:**

**Module No. 5: Installation of Street lighting**

**Outcome:** Explain work related to installation of Street lighting.

**Theory Content:**

- 5.1 Select pole size, height and distance between poles considering uniform illumination as per BIS for street lighting.
- 5.2 Identify types of luminaries, lamps & their accessories.
- 5.3 Identify different parameters of street lighting in a rural area.
- 5.4 Identify different materials for Street Lighting and explain their functions.
- 5.5 Select pole size/height and distance between poles for solar street lighting.
- 5.6 Select solar cell and its accessories considering illumination as per BIS.

**Practical Content:**

- 5.1 Plan and draw the route for street light pole erection.
- 5.2 Explain erection procedure of poles and its earthing. Apply it in practical field.
- 5.3 Plan and draw the route of pole erection for solar street lighting.
- 5.4 Know the connections of different types of fuses and M.C.B. for street lighting. Apply it in practical field.

**Tools & Equipment needed:** Bucket Truck, Ladder, screwdrivers, wrenches, pliers, wire strippers, and utility knives, Power Tools, Voltage Tester, cable pullers, fish tapes, cable lubricants, and cable rollers, Conduit Benders and Cutters, ire nuts, crimp connectors, electrical tape, heat-shrink tubing, cable ties, luminaires, lamps, brackets, Bolts, clamps, transformer, control panel, Wire, hard hats, safety glasses, gloves, and high-visibility clothing, etc.

**Module No. 6: Installation of Distribution Transformer and their components**

**Outcome:** Identify different components related to installation of Distribution Transformer (upto 100 KVA).

**Theory Content:**

- 6.1 Know the criteria for site selection for installation of Distribution Transformer (upto 100 KVA).

**Practical Content:**

- 6.1 Know the fixation of all fittings, insulators, main switch, fuse required for installation of Distribution Transformer. Apply it in practical field.
- 6.2 Connect main switch, fuse, distribution transformer and earthing leads.

**Tools & Equipment needed:****Module No. 7:** Service Connection Operations

**Outcome:** Execute work related to service connections for domestic and commercial purposes.

**Theory Content:**

- 7.1 Explain the types of service connection for domestic and commercial purpose.
- 7.2 Identify materials for service connection - PVC wire, Insulator, G.I wire, Stay wire, Stay bow, Stay rod, Egg insulator, Conduit.
- 7.3 Calculate cable length for service connection.
- 7.4 Install single phase energy meter for domestic purpose.
- 7.5 Specify Single phase & 3-Phase Energy meter, Cut-out.
- 7.6 Specify TPIC with Neutral & DPIC main switch.

**Practical Content:**

- 7.1 Install three phase energy meter for commercial purpose.
- 7.2 Install lightning arrester for service connection.

**Tools & Equipment needed:****Module No. 8:** Calculating the cost of electricity

**Outcome:** Calculate cost of electricity for domestic / commercial consumer from meter reading.

**Theory Content:**

- 8.1 Explain the terms related to tariff - Base load & Peak load, Maximum demand, Demand factor, Diversity factor, Load factor.
- 8.2 Identify the type of tariff required for domestic, commercial, industrial systems.
- 8.3 Study the reading of Energy meter and calculate energy bill of given load.

**Practical Content:**

- 8.1 Calculate cost of electrical energy considering the required tariff of any system.
- 8.2 Practical demonstration of fuse replacement and checking of healthy line.

**Tools & Equipment needed:****Module No. 9:** Workplace Safety

**Outcome:** Explain safety precautions to be taken while working on distribution lines.

**Theory Content:**

- 9.1 Identify and apply the safety measures while working on low/medium/high voltage transmission line.

**Practical Content:**

- 9.1 Apply protection against lightning surge in transmission line.
- 9.2 Apply safety and protective devices for overhead lines.
- 9.3 Apply protection against unused overhead lines.
- 9.4 Apply safety measures for Line supports as per I.E. Rules
- 9.5 Apply safety measures for erection of distribution transformer & transmission lines as per I.E. Rules.

**Tools & Equipment needed:****Module 10: OJT*****Terminal Outcomes:***

Assessor will check report prepared for this component of training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain.

**Module 11: Employability Skills (60 hours)****Introduction to Employability Skills Duration: 1.5 Hours****After completing this programme, participants will be able to:**

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

**Constitutional values - Citizenship Duration: 1.5 Hours**

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

**Becoming a Professional in the 21st Century Duration: 2.5 Hours**

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

**Basic English Skills Duration: 10 Hours**

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e-mail using basic English

**Career Development & Goal Setting Duration: 2 Hours**

11. Create a career development plan with well-defined short- and long-term goals

**Communication Skills Duration: 5 Hours**

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

**Diversity & Inclusion Duration: 2.5 Hours**

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD

16. Discuss the significance of escalating sexual harassment issues as per POSH act.

### Financial and Legal Literacy Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

### Essential Digital Skills Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

### Entrepreneurship Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

### Customer Service Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

### Getting Ready for apprenticeship & Jobs Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

### Learning Outcome – Assessment Criteria

Module No.	Outcome	Assessment Criteria
1	Recognize single phase and three phase AC distribution systems and its components.	<p><b>After completion of this module students will be able to:</b></p> <p>1.1 Define and measure Voltage, Current, Power, Power Factor of a single phase A.C. system.</p> <p>1.2 Define and measure voltage, Current, Power, Power Factor of a 3phase A.C. system</p> <p>1.3 Understand relation and measure phase voltage, phase current, Line voltage. Line current in a 3 ph</p>

Module No.	Outcome	Assessment Criteria
		<p>A.C. system</p> <p>1.4 Use test lamp to test single phase and three phase voltage (line and phase)</p> <p>1.5 Define standard Low, Medium, High &amp; Extra high voltage.</p> <p>1.6 Identify 3-phase 3-wire &amp; 3-phase 4-wire system.</p> <p>1.7 Identify different components / accessories used in the distribution system.</p>
2	Identify power factor improvement devices in A.C. distribution system.	<p><b>After completion of this module students will be able to:</b></p> <p>2.1 Differentiate between feeder &amp; distributor.</p> <p>2.2 Recognize the types of A.C Distribution - Primary &amp; Secondary distribution System and their application.</p> <p>2.3 Identify overhead and underground distribution systems and their place of application.</p> <p>2.4 Illustrate with diagrams different schemes of the distribution system - Radial, Ring main, Interconnected system. Know the characteristics of each system and place of application.</p> <p>2.5 Explain the importance of load power factor improvement.</p> <p>2.6 Identify power factor improvement equipment and their specifications.</p> <p>2.7 understand the connections of power factor improvement equipment. Apply it in a practical field.</p>
3	Identify different materials used in Low voltage Distribution System.	<p><b>After completion of this module students will be able to:</b></p> <p>3.1 Identify different types of Pole, Towers, X-arms, Timbers, Sky pin, Arm pin, Clevis, isolators for Distribution System.</p> <p>3.2 Identify different types of insulators- Pin, Strain, Disc, Shackle, Gay and their place of applications in power line.</p> <p>3.3 Recognize size &amp; types of conductors and its application in the distribution system. Know the specification of the conductors for procurement.</p> <p>3.4 Identify guying materials, anchoring materials, different connectors, and lightning arresters. Understand the function of each item and their place of applications.</p> <p>3.5 Identify and specify different types of fuses, their rating required at different locations in the distribution system.</p> <p>3.6 Identify the components in the panel board of low voltage distribution.</p> <p>3.7 Identify 3phase 3 wire and 3 phase 4 wire cable</p> <p>3.8 Identify the difference between overhead and underground cable.</p>



Module No.	Outcome	Assessment Criteria
4	Explain and perform different elements of work related to erection of components of an overhead distribution system.	<p><b>After completion of this module students will be able to:</b></p> <p>4.1 Explain arrangements needed for fixation of poles of overhead lines following I.E rules for selection of pole locations and pole height.</p> <p>4.2 Explain the erection procedures of pole, Stay wire, Cross arm, Insulators etc.</p> <p>4.3 Explain requirement of Conductor Spacing, Line Guard materials &amp; their fixing as per I.E. rules.</p> <p>4.4 Make different types of Joints and Jumper</p> <p>4.5 Make earthing of all metal supports of overhead lines as per I.E. rules.</p> <p>4.6 Install different types of overhead insulator.</p> <p>4.7 Explain methods of plate and pipe earthing.</p> <p>4.8 Identify different tools &amp; equipment used for work related to overhead distribution lines.</p>
5	Explain work related to installation of Street lighting	<p><b>After completion of this module students will be able to:</b></p> <p>5.1 Select pole size, height and distance between poles for street lighting.</p> <p>5.2 Explain erection procedure of poles and its earthing.</p> <p>5.3 Identify types of luminaries, lamps &amp; their accessories for street lights.</p> <p>5.4 Know the connections of different types of fuses and M.C.B. for street lighting.</p>
6	Identify different components related to installation of Distribution Transformer (upto 100 KVA).	<p><b>After completion of this module students will be able to:</b></p> <p>6.1 Identify the fixation of all fittings, insulators, main switch, fuse required for installation of Distribution Transformer.</p> <p>6.2 Connect main switch, fuse and earthing leads of distribution transformer (up to 100 KVA)</p>
7	Execute work related to service connections for domestic and commercial purpose.	<p><b>After completion of this module students will be able to:</b></p> <p>7.1 Identify materials for service connection - PVC wire, Insulator, G.I wire, Stay wire, Stay bow, Stay rod, Egg insulator, Conduit</p> <p>7.2 Calculate cable length for service connection.</p> <p>7.3 Install single phase energy meter and DPIC main switch for domestic purpose</p> <p>7.4 Install three phase energy meter with TPIC main switch for commercial purpose.</p> <p>7.5 Install lightning arrester for service connection.</p> <p>7.6 Demonstrate fuse replacement and checking of healthy line</p>
8	Calculate cost of electricity for domestic /commercial consumer from meter reading	<p><b>After completion of this module students will be able to:</b></p> <p>8.1 Explain tariff for domestic and commercial users</p> <p>8.2 Study the reading of the Energy meter and calculate the energy bill of the given load.</p> <p>8.3 Calculate cost of electrical energy considering the required tariff of any system.</p>
9	Explain safety precautions to be taken while working on distribution lines.	<p><b>After completion of this module students will be able to:</b></p> <p>9.1 Explain protection against lightning surge in</p>

Module No.	Outcome	Assessment Criteria
		transmission lines. 9.2 Explain safety and protective devices for overhead lines. 9.3 Explain protection against unused overhead lines. 9.4 Illustrate the safety measures while working on a low/medium distribution line.
4	OJT	
5	Employability Skill	

### List of Tools, Equipment & materials needed for Practical

Sl No	Items Name	Specification
1.	Fuse -	a) Kit Kat type - 250V, 10A b) HRC type - 250V, 10A
2.	Single phase Energy meter -	Electromagnetic type, single phase, 230V, 5A
3.	Three phase Energy meter -	Electromagnetic type, three phase, 415V, 10A
4.	TPIC with Neutral main switch -	Iron clad, triple pole with neutral, 415V, 10A
5.	DPIC main switch -	Iron clad, double pole, 250V, 10A
6.	PVC Cu wire -	1.5/2.5 sqmm
7.	Insulator model-	a) Pin type; b) Strain type; c) Disc type
8.	PVC conduit -	12 mm, 16 mm, 25 mm
9.	M.C.B -	a) Triple pole, 10A, 415V b) Single pole, 5A, 250V

Sl No	Items Name	Specification
10.	Sodium vapour lamp –	<p>Integral well glass luminaire suitable for use with high pressure Sodium Vapour Lamps (SON70 [E or I]),</p> <p>Features:-</p> <ul style="list-style-type: none"> <li>• Pressure die-cast aluminium housing construction with epoxy polyester powder coat offers robustness and good weatherability.</li> <li>• The integral gear compartment accommodates all the accessories like PF improvement Capacitor, Ignitor, Ballast pre-wired up to the terminal block.</li> <li>• Heat resistant glass cover with heavy duty Wire Gurad fixed to the housing my means of robust clamps.</li> <li>• Adjustable mounting bracket for top as well as side mounting option.</li> <li>• Profiled EPDM gasket with special hardness treatment so as to achieve and maintain higher ingress protection. Mounting Type: either Surface mounted / Wall mounted, Installation: Direct mounting on ceiling or columns with the help of the mounting bracket.</li> </ul>
11.	Mercury vapour lamp –	<p>Integral well glass luminaire suitable for use with high pressure Mercury Vapour Lamps HPL N 80W /125W,</p> <p>Features:-</p> <ul style="list-style-type: none"> <li>• Pressure die-cast aluminium housing construction with epoxy polyester powder coat offers robustness and good weatherability.</li> <li>• The integral gear compartment accommodates all the accessories like PF improvement Capacitor, Ignitor, Ballast pre-wired up to the terminal block.</li> <li>• Heat resistant glass cover with heavy duty Wire Gurad fixed to the housing my means of robust clamps.</li> <li>• Adjustable mounting bracket for top as well as side mounting option.</li> <li>• Profiled EPDM gasket with special hardness treatment so as to achieve and maintain higher ingress protection. Mounting Type: either Surface mounted / Wall mounted, Installation: Direct mounting on ceiling or columns with the help of the mounting bracket.</li> </ul>
12.	LED lamp –	32W, 250V

Sl No	Items Name	Specification
13.	Electric Power Drill –	Drilling Dia: Max 10mm, 220-230VAC, 50-60Hz, Drill rotational speed ( $n_0$ )=2600/min, 500W, 2.3Amp.
14.	PVC / XLPE low tension cable jointing kit	Standard kit
15.	Adjustable wrench	4",6" and 8"
16.	Soldering iron –	230 V, 30 W
17.	Soldering Flux –	250 gm.
18.	Megger –	a) 1000V (100/250 Mohm) b) 500V (100/250 Mohm)
19.	Clip On Meter:	Clip On (Digital- minimum 3 and 1/2 digit) type Meter Suitable for measurement of (i)AC/DC Current 5/10/50/100Amp, (ii) Voltage:600VAC/500VDC, (iii) Resistance: 0-10MOhms.
20.	Cable cutting pliers	6"
21.	Wooden Panel board with following accessories:	MCB – Four pole, 415V, TPIC & Neutral Main switch – 415V, 10A DPIC Main switch – 230V, 5A Variac – 5KVA, 250V, Lamp points, Piano switch, Contactor – 4 pole, 250V coil, ON/OFF push button switch.
22.	Wooden Board for wiring –	4' X 7'
23.	PVC Casing for wiring –	3/4" ,1"
24.	a) PVC cable: b) XLPE cable:	4 core, 3 & 1/2 core
25.	Multimeter-	4 & 1/2 digit LCD display, 0-20Mohm, 0-750V AC, 0-750V DC, 0-10A. Transistor & Capacitor checking facility.
26.	Screw driver set	Taparia set
27.	Spanner set	Taparia set
28.	Adjustable wrench –	4",6" and 8"
29.	Ring Spanner –	8 mm, 10 mm, 12 mm, 14 mm

Sl No	Items Name	Specification
30.	Insulated Combination Plier (Heavy Duty) -	8"
31.	Long Nose pliers -	8"
32.	Cutting pliers -	8"
33.	Neon tester	
34.	Ball Pin Hammer -	500 gm

### Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks
Recognize single phase and three phase AC distribution systems and its components.	PWR/3106/OC1	20	70
Identify power factor improvement devices in A.C. distribution systems.	PWR/3106/OC2	20	70
Able to identify different materials used in Low voltage Distribution System.	PWR/3106/OC3	20	70
Explain and perform different elements of work related to erection of components of an overhead distribution system.	PWR/3106/OC4	20	70
Explain work related to installation of Street lighting.	PWR/3106/OC5	20	70
Identify different components related to installation of Distribution Transformer (upto 100 KVA).	PWR/3106/OC6	20	70
Execute work related to service connections for domestic and commercial purposes.	PWR/3106/OC7	10	70
Calculate cost of electricity for domestic / commercial consumer from meter reading.	PWR/3106/OC8	10	80

Explain safety precautions to be taken while working on distribution lines.	PWR/3106/OC9	10	80
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	PWR/3106/OC10	0	150
Employability Skill-60 Hrs	DGT/VSQ/N0102	50	0