Program Guide

for

House Wiring Helper

A short term Apprenticeship Curriculum
for
International Labour Organisation/ Time Bound Program
and
World Education/Brighter Future Project

Council for Technical Education and Vocational Training
CURRICULUM DEVELOPMENT DIVISION
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Introduction

The International Programme on the Elimination of Child Labour (IPEC) of the International Labour Organisation (ILO) has promoted a variety of measures to progressively eliminate child labour, giving priority to the eradication of the worst forms of child labour in Nepal. IPEC's interventions are implemented in partnership with the government, trade unions, employer's associations and non-governmental organizations. One of the innovative programmes promoted by IPEC include the Time Bound Programme (TPB), which aims to prevent and eliminate selected worst forms of child labour, as defined in ILO Convention No. 182, within a defined period of time.

The objective of the Time-Bound Programme (TBP) is to contribute to the Master Plan of His Majesty's Government of Nepal for the Elimination of Child Labour. The Time-Bound Programme is going to take various steps in eliminating the identified seven worst forms of child labour in Nepal: child porters, child domestics, children in trafficking, child ragpickers, children in carpet factories, children in mine/stone quarries and child bonded labour.

The educational interventions of the TBP in Nepal have been among the most effective instruments for the prevention of child labour and the rehabilitation of former child workers. The TBP & Brighter Future Programme (BFP) of World Education (WEI) measures promote access to free education and appropriate vocational training and apprenticeship opportunities for all children and youth removed from the identified worst forms of child labour. In this context, ILO and World Education (WEI) have taken the initiative to design apprenticeship-training programs in various trade areas for the older children working in the worst forms of child labour.

Rational of the programme

The vocational trainings in Nepal have resulted mixed outcomes. Although, there is a rapid proliferation of the technical and vocational training providers and the youth enrolment has been in increasing trend, there are some fundamental problems. Basically, the training programmes are much structured and the training delivery is made in institution-based environment. Similarly, there are minimum standard that needs to be maintained for enrolment. Considering the low literacy background of children engaged in the identified worst forms of child labour, the standard for admission to vocational training institutes is too high. Furthermore, many vocational training institutes have a very high cost. Therefore, ILO and WEI have taken the initiative to look more carefully into apprenticeship models as an alternative to vocational training for older working children.

According to IPEC Nepal and WEI, the term apprenticeship for TBP refers to supervised on-the-job training that provides practical skills and theoretical knowledge and also the experience of a work environment. It is a learning method that prepares a young person at least 14 years of age for a real job by giving him/her a set of well-defined occupational abilities through close supervision and guidance from a potential employer, or from a mentor. Apprenticeship can build confidence in young people, and remind them that they have a positive role to play in their community, and in their country.

Overall objectives

The overall objective of the programme is to eliminate exploitative and hazardous child labour by providing them with skills and knowledge to attain better employment and economic opportunities and linking them to national development efforts including economic, educational and labour market policies of Nepal.

Terminal objectives

After the completion of this course an apprentice will be able:

- to perform electrical layouts for various types of house wirings,
- to install electrical boxes and switches,
- to fit and check electrical accessories,
- to perform earthing, and
- to assit the senior electrician to perform repair and maintenance of electrical works.

Course description

This course is designed to help the apprentices to provide basic knowledge and skills on house wiring. The apprentices will develop their competencies working in the house wiring works of buildings in an unstructured way. This course especially provides skills focusing on domestic wiring and fittings. This course also provides skills about repair and maintenance of various domestic electrical installations and fittings.

Target group

This programme is targeted to the older children engaged in the worst forms of child labour who are above 14 years old. In Nepal, the worst form of child labour include;

1. Domestic child labourers,
2. Child porters,
3. Child bonded labourers,
4. Children involved in trafficking,
5. Rag picking children,
6. Child labourers in carpet industry, and
7. Child labourers in stone quarries and mines.

Group size

The number of apprentice can vary depending upon the facilities available with the apprenticeship-training providers. **Ideally, this should not exceed five in numbers**.

Entry criteria

An apprentice must be or have

1. Engaged in the worst form of child labour.
2. Between 14 to 18 years old.
3. Interest and commitment in apprenticeship training.
4. Current employer's/guardian's consent.
5. Basic literacy.

Duration

Three to five months (2 to 3 hours per day and 5 to 6 days a week) OR as per the agreement between apprenticeship provider and TBP implementing organisation. However, the theory and practical time should be arranged in the ratio of 20:80.

Medium of instruction: Nepali.

Pattern of attendance

The apprentice should secure 90% attendance during the training period.

Certificate requirements
National Skill Testing Board (The Skill Testing Division of the Council for Technical Education and Vocational Training, CTEVT) according to its requirement administers skill tests and provides certificate to apprentice.

Apprenticeship provider's qualification
An apprenticeship provider must have:

1. Enthusiasm and motivation to train the older children in the worst form of child labour
2. Qualification and experience in training.
3. Proper tools, equipment and space for training.
4. Safe working environment.
5. Possibility of employment opportunity.

Trainees evaluation
The apprenticeship-training providers will continuously evaluate the apprentice based on their performance.

Equipment, tools and materials
Depending upon the frequency of uses and the number of apprentice the number/quantity of tools/equipment/material varies.

S. No.	Name of the tools/equipment	Units
1.	Tester	
2.	Pliers	
3.	Screwdriver	
4.	Hammer	
5.	Chisel	
6.	Hacksaw	
7.	Measuring tape	
8.	Drill Machine	
9.	Multimeter	
10.	Punch	
11.	Grip	
12.	Adze	

Summary of Duties and Competencies

S. No	Duties and Competencies/Tasks/Skills	Time (in hrs.)		
		Th.	Prac.	Total
A.	**Assist to layout pipe in concrete**			
	A. 1. Assist in laying out	1	3	4
	A. 2. Fix circular box in ceiling center	1	3	4
	A. 3. Divide pipe as required	1	3	4
	A. 4. Put pipe for telephone/cable	1	3	4
	A. 5. Put pipe for mainline	1	3	4
	A. 6. Put GI pipe for gate light	1	3	4
B.	**Prepare surface for wiring**			
	B. 1. Chip wall	1	6	7
	B. 2. Put/ Fix pipe	1	3	4
	B. 3. Put/ Fix Junction band	1	2	3
	B. 4. Put/ Fix Pipe for telephone/cable in wall	1	3	4
	B. 5. Put/ Fix wooden plastic bed	1	3	4
C.	**Assist to place wire**			
	C. 1. Check wire gauge / continuity	1	3	4
	C. 2. Put earthing supply wire	1	3	4
	C. 3. Put circuit wire (half wire)	1	3	4
	C. 4. Place telephone wire	1	2	3
	C. 5. Place cable wire	1	2	3
	C. 6. Put main supply wire	1	2	3
D.	**Assist to place board/box**			
	D. 1. Place switch box	1	2	3
	D. 2. Place Holder box	1	2	3
	D. 3. Place Power box	1	2	3
	D. 4. Place telephone box	1	2	3
	D. 5. Place telephone / cable circular box	1	2	3
	D. 6. Place MCB box	1	1	2
	D. 7. Place DP (double pole) box	1	1	2
	D. 8. Place meter box	1	1	2
E	**Fit/check electrical items / accessories**			
	E. 1. Fit round plate/block	1	1	2
	E. 2. Fit/Check holder	1	1	2
	E. 3. Fit/Check ceiling rose	1	1	2
	E. 4. Fit/Check switch	1	1	2
	E. 5. Fit fuse	1	1	2
	E. 6. Fit/Check indicator	1	1	2
	E. 7. Fit two pin socket	1	1	2
	E. 8. Fit five pin socket	1	1	2
	E. 9. Fit/Check two way switch	1	1	2
	E. 10. Fit/Check bell push switch	1	1	2
	E. 11. Fit/Check diameter switch	1	1	2
	E. 12. Fit/Check intermediate /cross switch	1	1	2
	E. 13. Fit/Check combine power switch socket	1	1	2
	E. 14. Fit telephone /TV socket	1	1	2

S. No	Duties and Competencies/Tasks/Skills	Time (in hrs.)		
		Th.	Prac.	Total
	E. 15. Fit bell	1	1	2
	E. 16. Fit show light	1	1	2
	E. 17. Fit tube light	1	1	2
	E. 18. Fit dome light	1	1	2
	E. 19. Fit/check MCB	1	1	2
	E. 20. Fit main switch	1	1	2
	E. 21. Fit change over	1	1	2
	E. 22. Fit Fan (ceiling / exhaust / wall)	1	1	2
	E. 23. Fit/ check running changeover	1	1	2
	E. 24. Fit gate light/ garden light	1	1	2
	E. 25. Fix sub-meter	1	1	2
F.	**Assist to perform earthing**			
	F. 1. Dig pit.	1	2	3
	F. 2. Put earthing (copper other) plate	1	2	3
	F. 3. Connect copper wire	1	2	3
	F. 4. Put charcoal	1	2	3
	F. 5. Put salt	1	2	3
	F. 6. Put lime	1	2	3
	F. 7. Put concrete	1	2	3
	F. 8. Put GI/PVC pipe	1	2	3
	F. 9. Fill up pit with soil	1	2	3
G.	**Assist to check power supply**			
	G. 1. Check phase line	1	3	4
	G. 2. Check earthing line	1	3	4
	G. 3. Check telephone line	1	3	4
	G. 4. Check cable line	1	3	4
	G. 5. Check voltage	1	2	3
	G. 6. Check earth linkage	1	2	3
H.	**Assist to perform repair/maintenance**			
	H. 1. Replace tube light	1	2	3
	H. 2. Replace holder	1	2	3
	H. 3. Replace bulb	1	2	3
	H. 4. Replace switch	1	2	3
	H. 5. Replace fuse	1	2	3
	H. 6. Replace indicator	1	2	3
	H. 7. Replace power socket	1	2	3
	H. 8. Replace TV socket	1	2	3
	H. 9. Replace telephone socket	1	2	3
	H. 10. Replace ceiling rose	1	2	3
I.	**Communicate with others**			
	I. 1. Communicate with electricians.	1	2	3
	I. 2. Communicate with client.	1	2	3
	I. 3. Communicate with employer.	1	2	3
	I. 4. Communicate with colleagues.	1	2	3
	I. 5. Communicate with supervisor.	1	2	3
	I. 6. Communicate with supplier.	1	2	3
	I. 7. Communicate with visitor.	1	2	3

S. No	Duties and Competencies/Tasks/Skills	Time (in hrs.)		
		Th.	Prac.	Total
	I. 8. Communicate with junior.	1	2	3
	I. 9. Communicate with electrical shops.	1	2	3
	I. 10. Receive telephone call.	1	2	3
J.	**Grow professionalism.**			
	J. 1. Consult electricians.	1	2	3
	J. 2. Visit equipped working places/sights.	1	3	4
	J. 3. Read related materials (Documents, manuals, brochures etc.).	1	3	4
	J. 4. Seek trainings places /programs.	1	4	5
	J. 5. Attend training/ seminar/workshops.	1	2	3
	J. 6. Watch Audio-Visual.	1	2	3
	J. 7. Browse World Wide Web.	1	2	3
	Total	**92**	**180**	**272**

Duty 1: Assist to layout pipe in concrete.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Assist in layout	⍁ Introduction to circuit route plan, lighting plan and layout system ⍁ Procedures for marking locations. ⍁ Safety precautions.	1	3	4
2.	Fix circular box in ceiling center	⍁ Types of circular box. ⍁ Procedures for marking locations. ⍁ Safety precautions.	1	3	4
3.	Divide pipe as required	⍁ Size (length and diameter) of conduit for placing wires. ⍁ Safety precautions.	1	3	4
4.	Put pipe for telephone/cable	⍁ Size (length and diameter) of conduit for placing wires. ⍁ Safety precautions.	1	3	4
5.	Put pipe for mainline	⍁ Size (length and diameter) of conduit for placing wires. ⍁ Safety precautions.	1	3	4
6.	Put GI pipe for gate light	⍁ Size (length and diameter) of GI pipe for placing wires. ⍁ Safety precautions.	1	3	4

Duty 2: Prepare surface for wiring.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Chip wall.	⍁ Chisels handling technique. ⍁ Safety precautions.	1	6	7
2.	Put/ Fix pipe	⍁ Procedures of fixing PVC and Metal conduit. ⍁ Safety precaution.	1	3	4
3.	Put/ Fix Junction band	⍁ Various sizes of junction band. ⍁ Procedures of fixing PVC and Metal conduit. ⍁ Safety precaution.	1	2	3
4.	Put/ Fix Pipe for telephone/cable in wall	⍁ Procedures of fixing PVC and Metal conduit. ⍁ Safety precaution.	1	3	4
5.	Put/ Fix wooden plastic bed	⍁ Types and sizes of wooden / plastic bed. ⍁ Safety precaution.	1	3	4

Duty 3: Assist to place wire.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Check wire gauge / continuity.	⍁ Measuring gauge and it handling ⍁ Units and dimensions. ⍁ Conversion of measurements. ⍁ Wire gauge charts and Current Carrying Capacity chart and their uses. ⍁ Safety precautions.	1	3	4
2.	Put earthing supply wire.	⍁ Importance of earthing. ⍁ Types of earth electrodes ⍁ Procedure. ⍁ Colour codes. ⍁ Methods of obtaining low earth resistance. ⍁ Safety precautions.	1	3	4
3.	Put circuit wire (half wire).	⍁ Various circuits (distribution, sub distribution and branch circuits). ⍁ Safety precautions.	1	3	4
4.	Place telephone wire.	⍁ Circuit diagram and graphic information. ⍁ Telephone wire placement procedure. ⍁ Safety precautions.	1	2	3
5.	Place cable wire.	⍁ Wire for various appliances. ⍁ Safety precautions.	1	2	3
6.	Put main supply wire	⍁ Main supply wire. ⍁ Service main ⍁ Safety precautions.	1	2	3

Duty 4: Assist to place board/box.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Place switch box.	⍁ Standard switch box specification. ⍁ Selection of different sizes and shapes of switch boxes. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3
2.	Place Holder box.	⍁ Type of mounting boxes for installing various lighting fixtures. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
3.	Place Power box.	⍁ Selection of power socket mounting boxes. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3
4.	Place telephone box.	⍁ Selection, types and use of telephone plug mounting boxes. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3
5.	Place telephone / cable circular box.	⍁ Selection and the knowledge of types and use of telephone /cable plug mounting boxes. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3
6.	Place MCB box.	⍁ Single phase and three phase MCBs and the corresponding mounting boxes. ⍁ The conductors permitted in the box. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3
7.	Place DP (double pole) box	⍁ Different types and size of DP box. ⍁ Placing procedure. ⍁ Safety precautions.	1	2	3
8.	Place meter box.	⍁ Different types of meter box ⍁ Installation procedure. ⍁ Safety precautions.	1	2	3

Duty 5: Fit/check electrical items/accessories

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Fit round plate/block.	⍁ Different types of accessories and fittings, ⍁ Selection of required types. ⍁ Standard wiring regulations. ⍁ Procedure. ⍁ Safety precautions.	1	1	2
2.	Fit/Check holder.	⍁ Selection of required types. ⍁ Standard wiring regulations. ⍁ Procedure. ⍁ Safety precautions.	1	1	2
3.	Fit/Check ceiling rose	⍁ Selection of required types. ⍁ Standard wiring regulations. ⍁ Fixing procedures of ceiling rose in joists and concrete.	1	1	2

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		⍁ Safety precautions.			
4.	Fit/Check switch	⍁ Fixing procedures of different types switches. ⍁ Methods of wiring and necessary connection. ⍁ Safety precautions.	1	1	2
5.	Fit fuse	⍁ Principles of over current and earth fault protection. ⍁ Different types and ratings of fuses, ⍁ Circuit breakers.	1	1	2
6.	Fit/Check indicator	⍁ Introduction to and use of indicators. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
7.	Fit two pin socket	⍁ Uses of two-pin socket. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
8.	Fit five pin socket	⍁ Uses of five-pin socket. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
9.	Fit/Check two way switch	⍁ Uses of two-way switch. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
10.	Fit/Check bell push switch	⍁ Uses of bell push switch. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
11.	Fit/Check diameter switch	⍁ Uses of diameter switch. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
12.	Fit/Check intermediate /cross switch	⍁ Uses of intermediate/cross socket. ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
13.	Fit/Check combine power switch socket	⍁ Uses of power switch socket. ⍁ Loading of main and sub-circuit (simple concept only) ⍁ Fitting procedure. ⍁ Safety precautions.	1	1	2
14.	Fit telephone /TV socket	⍁ Methods of fitting telephone / TV socket ⍁ Safety precautions.	1	1	2
15.	Fit bell.	⍁ Methods of arranging and laying out in coming and outgoing cables / wires ⍁ Checking procedures such as the bell, the button, the wires and the transformer (if	1	1	2

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		applied). ⍁ Safety precautions.			
16.	Fit show light	⍁ Uses of show light ⍁ Methods of fitting. ⍁ Safety precautions.	1	1	2
17.	Fit tube light	⍁ Uses of fluorescent lamps. ⍁ Types of fluorescent lights (preheated, rapid stat, instant start). ⍁ Safety precautions.	1	1	2
18.	Fit dome light	⍁ Use of different dome light. ⍁ Types of dome lights. ⍁ Fixing procedure. ⍁ Safety precautions.	1	1	2
19.	Fit/check MCB	⍁ Introduction and importance of MCB (simple concept only). ⍁ Use of protective breakers for the safe carrying of current. ⍁ Identification of circuits in the service panel. ⍁ Circuit Load Calculation (optional). ⍁ Fixing procedure. ⍁ Safety precautions.	1	1	2
20.	Fit main switch	⍁ Fuse cement ratings for main switch, main circuit and sub circuits. ⍁ Methods of connecting main switch. ⍁ Methods of checking phase sequence in the main switch. ⍁ Safety precautions.	1	1	2
21.	Fit change over	⍁ Uses of changeover switch. ⍁ Methods of connection to the terminal points. ⍁ Safety precautions.	1	1	2
22.	Fit Fan (ceiling / exhaust / wall)	⍁ Selection fan (size and power rating). ⍁ Testing of insulation resistance.	1	1	2
23.	Fit/ check running changeover	⍁ Methods of testing changeover switch and their connection procedure. ⍁ Safety precautions.	1	1	2
24.	Fit gate light/ garden light	⍁ Uses of gate / entrance and the garden light. ⍁ Fixing procedure.	1	1	2

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		▫ Safety precautions.			
25.	Fix sub-meter	▫ Importance and purpose of installing sub meter in a rented, multi-storey house and also in the commercial building. ▫ Importance of periodically monitoring the condition of sub- meter installed in different room / apartments. ▫ Fixing procedure. ▫ Safety precautions.	1	1	2

Duty 6: Assist to perform earthing.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Dig pit.	▫ Workplace cleaning at the site. ▫ Tools for digging pits, holes and trenches (pick and shovel etc.). ▫ Measuring the size (dimension) of the pit (Length, Breadth and Depth)	1	2	3
2.	Put earthing (copper other) plate.	▫ Pipe earthing and its specification. ▫ Procedure for placing copper and other plate. ▫ Lists of material required for different methods for earthing.	1	2	3
3.	Connect copper wire.	▫ Wiring procedure. ▫ Specification of copper wire for earthing.	1	2	3
4.	Put charcoal.	▫ Methods of filling charcoal around the pit of each electrode.	1	2	3
5.	Put salt.	▫ Methods of pouring salt around the earth pit.	1	2	3
6.	Put lime.	▫ Methods of pouring time into he plate area and depth of embedding.	1	2	3
7.	Put concrete.	▫ Methods of constructing concrete caisson around the pit.	1	2	3
8.	Put GI/PVC pipe.	▫ Selection of correct size of GI	1	2	3

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		/ PVC pipe. ⍁ Importance of covering the earthing wires.			
9.	Fill up pit with soil.	⍁ Methods of filling up pit with soil.	1	2	3

Duty 7: Assist to check power supply

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Check phase line	⍁ Methods of checking phase line of the supply main. ⍁ Testing of polarity of single pole switches with small neon tube tester lamp.	1	3	4
2.	Check earthing line	⍁ Methods of checking earthing line by applying of testing of earth continuity path and testing of earth resistance and using Megger.	1	3	4
3.	Check telephone line	⍁ Methods of checking telephone line by applying of testing of earth continuity path and testing of earth resistance and using Megger.	1	3	4
4.	Check cable line	⍁ Refer task 3. ⍁ Removing all links before reinstating the supply when carrying up the polarity test in lighting circuit ⍁ Follow the sequences provided below. ▪ Removing all loads. ▪ Ensuring isolation. ▪ Placing links in circuit. ▪ Insulation continuity tester and measure ohms zero instrument. ▪ Placement of instrumentation in the circuit. ▪ Switching ON & OFF. ▪ Taking readings and recording.	1	3	4
5.	Check voltage	⍁ Importance of checking voltage line and voltage of incoming and outgoing	1	2	3

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		supply to various circuits of sub circuits / branch circuits. ⍓ Methods of checking incoming / outgoing protective and indicating devices for correct operation and function.			
6.	Check earth linkage	⍓ Importance of checking earth linkage in panels and outgoing circuits and earth electrode resistance.	1	2	3

Duty 8: Assist to perform repair/maintenance.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Replace tube light	⍓ Location of fault such as defective contacting lamp holder, starter, loose contact in the starter and tube holder and ⍓ Methods of replacing new tube light.	1	2	3
2.	Replace holder	⍓ Fault finding technique ⍓ Methods of replacing tube and starter holders.	1	2	3
3.	Replace bulb	⍓ Fault finding technique ⍓ Methods of replacing lamp holder.	1	2	3
4.	Replace switch.	⍓ Operational function of control devices ⍓ Fault finding technique ⍓ Methods of replacing switch.	1	2	3
5.	Replace fuse.	⍓ Fuse types and ratings. ⍓ Importance of installing rated fuses ⍓ Malfunctioning of fuses. ⍓ Methods of replacing fuses.	1	2	3
6.	Replace indicator.	⍓ Importance of checking indicating devices. ⍓ Methods of replacing indicator.	1	2	3
7.	Replace power socket	⍓ Importance of checking the terminal pins of the power socket ⍓ Replacing technique in case of malfunctioning/ pin burnt	1	2	3

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		out.			
8.	Replace TV socket	▫ Importance of checking the terminal pins of the telephone socket ▫ Replacing technique in case of malfunctioning/ pin burnt out.	1	2	3
9.	Replace telephone socket	▫ Importance of checking the terminal pins of the telephone socket ▫ Replacing technique in case of malfunctioning/ pin burnt out.	1	2	3
10.	Replace ceiling rose	▫ Importance of checking the terminal pins of the ceiling rose. ▫ Replacing technique in case of malfunctioning/ pin burnt out.	1	2	3

Duty 9: Communicate with others

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Communicate with electricians.	▫ Meaning and importance of communication. ▫ Type of communication (oral, sign/gesture and written). ▫ Oral communication techniques. ▫ Communication for cooperative/collaborative tasks. ▫ Learning and information sharing. ▫ Prior consultation on assigned work with the seniors. ▫ Uses of appropriate communication language (with higher and lower position staffs.)	3	3	6
2.	Communicate with client.	▫ Importance of listening and viewing the client's opinions (offering opinions, supporting statement and questions and clarification of the proposed job).	1	2	3

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
3.	Communicate with employer.	▫ Refer to task 2	1	2	3
4.	Communicate with colleagues.	▫ Importance of interpretation and explanation of the proposed job with friends.	1	2	3
5.	Communicate with supervisor.	▫ Refer to task 1	1	2	3
6.	Communicate with supplier.	▫ Refer to task 2	1	2	3
7.	Communicate with visitor.	▫ Refer to task 2	1	2	3
8.	Communicate with junior.	▫ Refer to task 4	1	2	3
9.	Communicate with electrical shops.	▫ Demand and supply order. ▫ Bill / invoice. ▫ Material supply and delivery.	1	2	3
10.	Receive telephone call.	▫ Meaning, importance and purpose of telephone ▫ Telephone receiving technique ▫ Etiquette of receiving telephone call. ▫ Massage writing technique	1	2	3

Duty 10: Grow professionalism.

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
1.	Consult electrician.	▫ Importance of participating in career exploration activities with the senior electricians.	1	2	3
2.	Visit other's working place/ sight.	▫ Importance of learning from different workplaces and site visits.	1	3	4
3.	Read related materials (Documents, manuals, brochures)	▫ Importance of learning from trade relevant documents, manuals and other job related sheets.	1	3	4
4.	Attend training/ seminar/workshops	▫ Need of growing professionalism. ▫ Importance of career development opportunities inside and outside the organization.	1	4	5
5.	Watch Audio/Visual.	▫ Familiarization of TVs channel/A/V aids. ▫ Importance of leaning from A/V.	1	2	3
6.	Browse World Wide Web.	▫ Familiarization with	1	2	3

S. No	Competencies	Related Technical Knowledge	Time (in hrs.)		
			Th.	Prac.	Total
		computer. ▪ WWW browsing techniques.			
7.	Seek trainings places / programs	▪ Importance of trainings in career development. ▪ Possible training providers/institutes for refresher trainings.	1	2	3