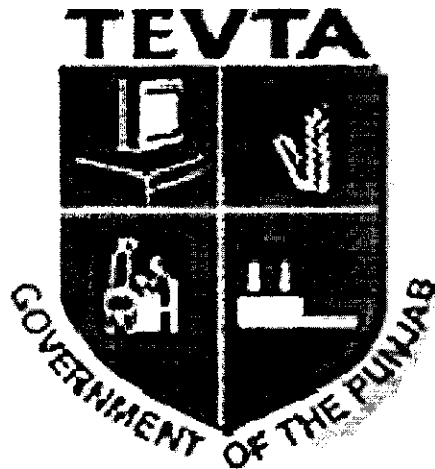


GOVERNMENT OF THE PUNJAB  
TECHNICAL EDUCATION & VOCATIONAL  
TRAINING AUTHORITY



CURRICULUM FOR  
INDUSTRIAL ELECTRICIAN

(3 – Months Course)

Revised April 2016

APPROVED

Date: 7-4-16

Sign: 

CURRICULUM SECTION  
ACADEMICS DEPARTMENT

96-H, GULBERG-II, LAHORE

Ph # 042-99263055-9, 99263064

[gm.acad@tevt.a.gop.pk](mailto:gm.acad@tevt.a.gop.pk), [manager.cur@tevt.a.gop.pk](mailto:manager.cur@tevt.a.gop.pk)

**TRAINING OBJECTIVES**

This curriculum is designed / developed keeping in view the local job market demand & modern industrial requirements in order to produce capable & skillful workforce by more focusing on practical as well as essential theoretical knowledge. This curriculum covers handling of wire & cables, single phase wiring, three phase wiring and electrical measuring instruments along with ethical values.


**CURRICULUM SALIENTS:**

Entry Level	Middle
Duration of course	3 – Months
Total Training Hours	400 Contact Hours
Training methodology	Practical 80% Theory 20%
Medium of Instructions	Urdu / English

**SKILL PROFICIENCY DETAILS:**

On successful completion of this course, the trainee should be able to:

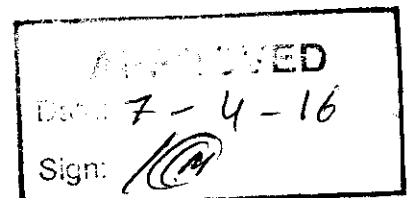
1. Handle & perform the workshop operations properly.
2. Carry out the handling of wires properly.
3. Install the Single Phase wiring as per diagram.
4. Install & Lay out the three phase wiring as per diagram.
5. Apply and adopt principle of ethics.

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**KNOWLEDGE PROFICIENCY DETAILS:**


On successful completion of this course, the trainee should be able to:

1. Explain the basic operation of workshop practice.
2. Explain the handling of various types of wires & cables.
3. Describe the use of single phase wiring
4. Describe the use of three phase industrial wiring.
5. Express the principles of trade related theory.



**Scheme of Studies**  
**Industrial Electrician**  
 (3 – Month Course)

S. No.	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Workshop Practice	-	32	32
2.	Handling of Wires & Cables	-	50	50
3.	Single Phase Wiring	-	80	80
4.	Three Phase Industrial Wiring	-	150	150
5.	Trade Theory	28	-	28
6.	I.T Fundamentals	4	16	20
7.	Functional English	15	25	40
<b>TOTAL</b>		<b>47</b>	<b>353</b>	<b>400</b>

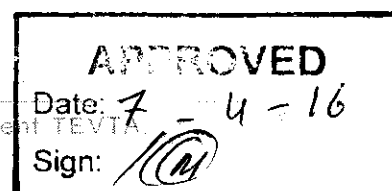
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**DETAIL OF COURSE CONTENTS****Industrial Electrician  
(3 – Month Course)**

Sr. No.	Detail of Topics	Theory Hours	Practical Hours
1.	<p><b>Workshop Practice</b></p> <p><b>1.1. Proper Working</b></p> <p>1.1.1. Identification and using common hand tools.</p> <p>1.1.2. Storing, care and maintenance of tools.</p> <p>1.1.3. Working according to the drawing sketches.</p> <p>1.1.4. Keeping the workshop clean and observing the safety rules.</p> <p><b>1.2. Filing Exercise</b></p> <p>1.2.1. Process of Filing</p> <p>1.2.2. Types of Files</p> <p>1.2.3. Filing Practices</p> <p>1.2.4. Introduction of Bench vice</p> <p><b>1.3. Drilling Exercise</b></p> <p>1.3.1. Drilling with Power drilling machine.</p> <p>1.3.2. Drilling holes in solid material</p> <p>1.3.3. Counter Sinking</p>		<p>10</p> <p>11</p> <p>11</p>
2	<p><b>Handling of Wires &amp; Cables</b></p> <p><b>2.1. Handling of Wire</b></p> <p>2.1.1. Striping of Wire</p> <p>2.1.2. Marking of eyes</p> <p>2.1.3. Bending of wire</p> <p>2.1.4. Laying of wire</p> <p><b>2.2. Handing of Cable</b></p> <p>2.2.1. Striping of cable</p> <p>2.2.2. Bending of cable</p> <p>2.2.3. Laying of Cable</p>		<p>10</p> <p>10</p>




	<p>3.2.3. Fixing of Components</p> <p>3.2.4. Laying of wires in PVC Pipe</p> <p>3.2.5. Stripping of wire and making electric connections.</p> <p>3.2.6. Connecting with supply and checking the function.</p> <p><b>3.3. Bell Indicator</b></p> <p>3.3.1. Function of Bell Indicator</p> <p>3.3.2. Reading of drawing</p> <p>3.3.3. Marking according to drawing</p> <p>3.3.4. Fixing of components.</p> <p>3.3.5. Laying of wires in PVC Pipe</p> <p>3.3.6. Stripping of wire and making electric connections.</p> <p>3.3.7. Connecting with supply and checking the function.</p> <p>3.3.8. AC &amp; DC Alarm</p> <p>3.3.9. Visual Indication on Panel.</p> <p><b>3.4. Fluorescent Lamps Circuit</b></p> <p>3.4.1. Identification of fluorescent tube</p> <p>3.4.2. Identification and use of choke</p> <p>3.4.3. Identification and use of holders</p> <p>3.4.4. Identification and use of starter</p> <p>3.4.5. Reading of drawing.</p> <p>3.4.6. Marking according to drawing</p> <p>3.4.7. Fixing of components</p> <p>3.4.8. Laying of wires in PVC Pipe</p> <p>3.4.9. Stripping of wire and making electric connections.</p> <p>3.4.10. Connecting with supply and checking the function.</p>		<p>15</p> <p>25</p>
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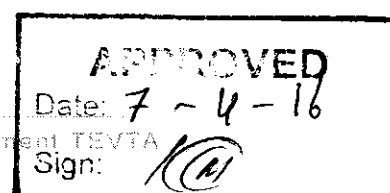




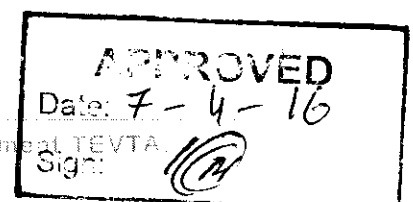
	<p>4.3.2. Identification of 3 phase motor.</p> <p>4.3.3. Identification and use of drum switch.</p> <p>4.3.4. Fixing of components</p> <p>4.3.5. Laying of wire</p> <p>4.3.6. Making of connection</p> <p>4.3.7. Connecting of supply and checking the function</p> <p><b>4.4. Making of 3 Phase Motor Connection ON / OFF by Contactor</b></p> <p>4.4.1. Identification and working</p> <p>4.4.2. Principle of magnetic contactor and uses.</p> <p>4.4.3. Identification and working principle of thermal over load relay</p> <p>4.4.4. Fixing of components.</p> <p><b>4.5. Making of 3 – Phase Connection Reversing by Contactor</b></p> <p>4.5.1. Identification and working</p> <p>4.5.2. Principle of magnetic contactor and uses</p> <p>4.5.3. Identification and working</p> <p>4.5.4. Principle of thermal over load relay</p> <p>4.5.5. Fixing of components</p> <p>4.5.6. Under standing of control and power</p> <p>4.5.7. Circuit Diagram</p> <p>4.5.8. Laying of Wires and connection</p> <p>4.5.9. Testing and operating the motor</p> <p><b>4.6. Making of 3 Phase Motor Connection Star Delta by Drum Switch</b></p> <p>4.6.1. Identification of 3 Phase Protection Switch</p> <p>4.6.2. Identification of 3 Phase Motor</p> <p>4.6.3. Identification and use of drum switch</p> <p>4.6.4. Fixing of components</p>		<p>10</p> <p>10</p> <p>10</p>
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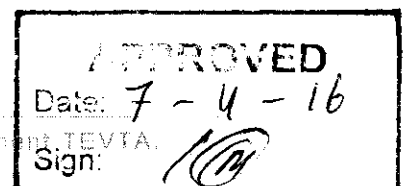
	<p>4.6.5. Laying of wire</p> <p>4.6.6. Making of connection</p> <p>4.6.7. Connecting of supply for function</p> <p><b>4.7. Making of 3 Phase Motor Connection Star Delta by Contactor</b></p> <p>4.7.1. Identification and working principle of magnetic contactor and uses.</p> <p>4.7.2. Identification and working principle of thermal overload relay</p> <p>4.7.3. Fixing of components</p> <p>4.7.4. Understanding of control and power</p> <p>4.7.5. Circuit diagram</p> <p>4.7.6. Laying of Wires and Connection</p> <p>4.7.7. Testing and operating the motor.</p> <p><b>4.8. Making of 3 Phase Motor Connection Star Delta Auto by Contactor</b></p> <p>4.8.1. Identification and working principle of magnetic contactor and uses</p> <p>4.8.2. Identification and uses of timer</p> <p>4.8.3. Identification and working principle of thermal overload relay.</p> <p>4.8.4. Fixing of components</p> <p>4.8.5. Understanding of control and power</p> <p>4.8.6. Circuit diagram</p> <p>4.8.7. Laying of wires and connection</p> <p>4.8.8. Testing and Operating the Motor.</p> <p><b>4.9. Making of 3 Phase Motor Connection Star Delta Reversing by Contactor</b></p> <p>4.9.1. Identification and working principle of magnetic contactor and uses.</p> <p>4.9.2. identification and uses of timer</p>		<p>20</p> <p>20</p> <p>20</p>
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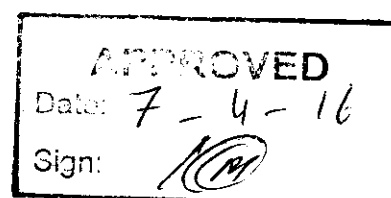
	<p>4.9.3. Identification and working principle of thermal overload relay</p> <p>4.9.4. fixing of components</p> <p>4.9.5. understanding of control and power circuit diagram</p> <p>4.9.6. Laying of wires and connection</p> <p>4.9.7. Testing and operating the motor.</p> <p><b>4.10. Making of 3 phase motor connection 2 speed by contactor</b></p> <p>4.10.1. Identification of pole changing and use of two speed motor</p> <p>4.10.2. Identification and working principle of magnetic contactor and uses</p> <p>4.10.3. Identification and working principle of thermal overload relay.</p> <p>4.10.4. fixing of components</p> <p>4.10.5. understanding of control and power circuit diagram</p> <p>4.10.6. laying of wires and connection</p> <p>4.10.7. Testing and operating</p>		20
<b>5</b>	<p><b>Trade Theory</b></p> <p><b>5.1. What is Electricity</b></p> <p>5.1.1. Definition of Electricity</p> <p>5.1.1.1. Electricity a natural force</p> <p>5.1.1.2. Origin of electricity</p> <p>5.1.1.3. Importance of electricity</p> <p><b>5.2. Electric Charges</b></p> <p>5.2.1. Positive charge</p> <p>5.2.2. Negative charge</p> <p>5.2.3. force between similar charges</p> <p>5.2.4. Force between opposite charges</p>	2	3



<p><b>5.3. Electricity has its origin in mater</b></p> <p>5.3.1. Conductors</p> <p>5.3.2. Non Conductors (insulator)</p> <p>5.3.3. Composition of meters</p> <p>5.3.4. Atomic structure</p> <p>5.3.5. The free electrons as carriers of charge</p>	3	
<p><b>5.4. Electromotive Force and Electric Current</b></p> <p>5.4.1. Current is the movement of electrons</p> <p>5.4.2. EMF</p> <p>5.4.3. How to produce EMF</p> <p>5.4.4. Types of current</p> <p>5.4.5. Direction of current</p>	3	
<p><b>5.5. Principles and Theory of DC</b></p> <p>5.5.1. Electrical Circuit and Units</p> <p>5.5.1.1. The circuits</p> <p>5.5.1.2. Unit of Current</p> <p>5.5.1.3. Unit of Resistance</p> <p>5.5.1.4. Unit of Voltage</p> <p>5.5.1.5. Measurement of current, voltage and resistance</p>	2	
<p><b>5.6. Ohm's Law</b></p> <p>5.6.1. Current depends on</p> <p>5.6.1.1. The Voltage (I ~V)</p> <p>5.6.1.2. The Resistance (I ~VR)</p> <p>5.6.1.3. Ohm's Law <math>I=V/R</math></p>	3	
<p><b>5.7. Resistance</b></p> <p>5.7.1. Resistance depends on:</p> <p>5.7.2. Material, length, cross-section</p> <p>5.7.3. specific resistance</p> <p>5.7.4. Conductivity</p> <p>5.7.5. Materials of Resistors</p>	3	

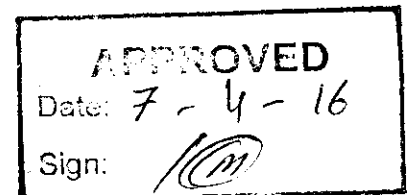


	<p><b>5.8. Series of Connection of Resistance</b></p> <p>5.8.1. Definition of series connection</p> <p>5.8.2. Current in the series connection</p> <p>5.8.3. Total voltage and individual voltage in a series connection.</p> <p>5.8.4. Total Resistance</p> <p>5.8.5. Ratio of Individual voltages to individual resistance</p> <p><b>5.9. Parallel Connection of Resistance</b></p> <p>5.9.1. Definition of parallel connection</p> <p>5.9.2. Voltage in a parallel connection</p> <p>5.9.3. Total current and individual voltage in series connection</p> <p>5.9.4. Total resistance and conductance</p> <p>5.9.5. Ratio of individual currents to individual resistance</p> <p><b>5.10. Introduction of Measuring Instruments</b></p> <p>5.10.1. Types of Meters</p> <p>    5.10.1.1. Volt Meter</p> <p>    5.10.1.2. Ammeter</p> <p>    5.10.1.3. Watt Metter</p> <p>    5.10.1.4. Energy</p> <p>    5.10.1.5. Multi Meter</p> <p>5.10.2. Uses of Meters</p> <p>5.10.3. Connection of Meters</p> <p>5.10.4. Reading of Scale.</p>	<p>3</p> <p>3</p> <p>3</p>	
<b>TOTAL</b>		<b>28</b>	<b>312</b>



## LIST OF PRACTICALS

1. Identification and using, storing, care and maintenance common hand tools while keeping the workshop clean and observing the safety rules.
2. Filing Exercise
3. Drilling Exercise
4. Handling of Wire
5. Handling of Cable
6. Making of single pole switch circuit.
7. Making of two way switch circuit.
8. Single Phase Wiring
9. Single Pole Switch Circuit Installation
10. Two Way switch Circuit
11. Bell Indicator
12. Fluorescent Lamps Circuit
13. Installation of Test Board.
14. Making of Single Phase Motor Connection Reversing by Drum Switch
15. Making of 3 Phase Motor Connection by Drum Switch ON / OFF with Indicator
16. Making of 3-Phase Motor Connection Reversing by Drum Switch with indicator
17. Making of 3 Phase Motor Connection ON / OFF by Contactor
18. Making of 3 – Phase Connection Reversing by Contactor
19. Making of 3 Phase Motor Connection Star Delta by Drum Switch
20. Making of 3 Phase Motor Connection Star Delta by Contactor
21. Making of 3 Phase Motor Connection Star Delta Auto by Contactor
22. Making of 3 Phase Motor Connection Star Delta Reversing by Contactor
23. Making of 3 phase motor connection 2 speed by contactor
24. Making connections of Volt Meter, Ammeter, Watt Metter, Energy, Multi Meter



**SCHEME OF STUDIES**  
**I.T Fundamentals**

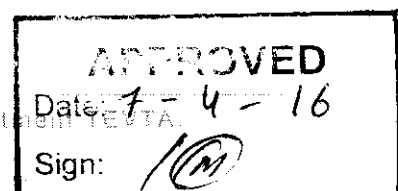
S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Introduction to Computers	1	4	5
2.	Typing - Microsoft Word	2	6	8
3.	Internet & Electronic Mail	1	6	7
<b>Total</b>		<b>04</b>	<b>16</b>	<b>20</b>

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**DETAIL OF COURSE CONTENTS**  
**I.T Fundamentals**

S. No	Detail of Topics	Theory Hours	Practical Hours
1	<b>Introduction to Computers</b> 1.1 What is a computer- Definition, functions and general features? 1.2 What is Hardware – 1.2.1 Computer parts and units 1.2.1.1 Input Unit - Keyboard, Mouse etc. 1.2.1.2 Central Processing Unit 1.2.1.3 Output Unit 1.3 What is Software – 1.3.1 Electronic Parts of a Pc it is 1.3.1.1 Software and Its types 1.3.1.2 System Software, Application Software 1.4 Working with windows Operating System 1.4.1 How does windows desktops work? 1.5 What are the Icons, Shortcuts and other graphic, 1.5.1 How to see computer contents on different drives etc	1	4
2	<b>Typing and Word processing (MS Word)</b> 2.1 Proper way of typing correct and speedy - getting familiar with the keys 2.2 Where to type in computer? How to save a file? How to get it back? Where to find your saved work? 2.3 How to get it printed?	2	6
3	<b>Emailing and Internet Surfing</b> 3.1 How to go to Internet, what is required for an internet connection etc. 3.2 How to use email? How to search on web? Etc 3.3 How to make new email account, login and logout an email account etc.?	1	6
<b>Total</b>		<b>04</b>	<b>16</b>




**LIST OF PRACTICALS**  
**I.T Fundamentals**

S. No.	Name of Practical
1.	Turn On/Off and setting of power supply
2.	Accessing The Desktop
3.	Using of Icons and Shortcuts
4.	Setting / customizing the desktop
5.	Viewing the contents of computer – Directory
6.	Copying, Deleting and Moving Files in a folder
7.	Working with different Applications
8.	Opening MS Word for typing
9.	First lesson of Typing A S D F
10.	Second Lesson of typing J K L ;
11.	Third Lesson U I O P
12.	Fourth Lesson R E W Q
13.	Fifth Lesson N M , .
14.	Sixth Lesson V C X Z
15.	Seventh Lesson All letter using R index Finger
16.	Eighth Lesson All letter using L index Finger
17.	Formatting in MS Word Bold, Italic etc.
18.	Using Internet
19.	Opening Email, making new account
20.	Sending Receiving Emails

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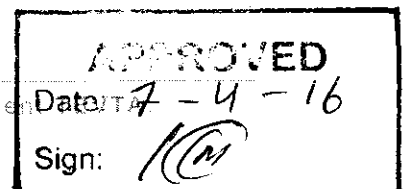
**SCHEME OF STUDIES**  
**Functional English**

S.No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Introduction of English Sentence Structure	2	3	5
2.	Use of present indefinite tense	2	3	5
3.	Use of 'is' 'are' 'am' questions and negatives	2	3	5
4.	Ask questions	2	3	5
5.	Express daily routines	2	3	5
6.	Know how to address people	1	2	3
7.	Provide written feedback	1	2	3
8.	Dialogues	1	2	3
9.	Understand vocabulary	1	2	3
10.	Application/C.V.	1	2	3
<b>Total</b>		<b>15</b>	<b>25</b>	<b>40</b>

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**DETAIL OF COURSE CONTENTS**  
**Functional English**

S. No	Detail of Topics	Theory Hours	Practical Hours
1	Introduction of English sentence structure	2	3
2	Use of present indefinite tense with exercises	2	3
3	Use of 'is' 'are' 'am' questions and negatives	2	3
4	<b>4.1 Ask questions</b> 4.1.1 At work place 4.1.2 In the market 4.1.3 In classroom	2	3
5	<b>5.1 Express daily routines</b> 5.1.1 Before going to college 5.1.2 Dealing with colleagues 5.1.3 Going to market	2	3
6	<b>6.1 Know how to address people</b> 6.1.1 In Meetings 6.1.2 In class	1	2
7	<b>7.1 Provide written feedback</b> 7.1.1 After visiting the market 7.1.2 On some official task	1	2
8	<b>8.1 Dialogues</b> 8.1.1 With colleague 8.1.2 Teacher/student 8.1.3 Employer/employee 8.1.4 Booking on railway station	1	2
9	Understand vocabulary	1	2
10	Application / C.V.	1	2
<b>Total</b>		<b>15</b>	<b>25</b>



**LIST OF PRACTICALS**  
**Functional English**

S. No.	Practical
1.	Group discussion
2.	Interviews
3.	Role play

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**LIST OF LABS**

**Industrial Electrician**

- Electrical Lab / Workshop

**I.T Fundamentals**

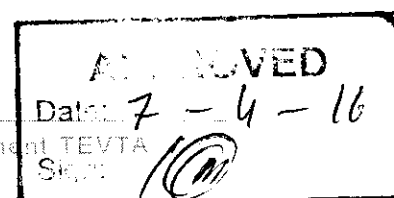
- Computer Lab

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**LIST OF TOOLS / EQUIPMENTS ETC**  
**(For a Class of 25 Students)**

<b>Name of Trade</b>	<b>Industrial Electrician</b>
<b>Duration</b>	<b>3 Months</b>

S. No.	Name of Tools / Equipment	Quantity
1.	Screw Driver 4", 6", 8"	25 Nos. each
2.	Neon phase tester light duty pocket size	25 Nos.
3.	Insulated pliers with side cutter	25 Nos.
4.	Insulated long nose pliers with side cutter	25 Nos.
5.	Insulated wire cutter	25 Nos.
6.	High insulation rubber hand gloves	25 Nos.
7.	Knife	25 Nos.
8.	Chisels 6", 12"	10 Nos. each
9.	Hammers 200 gm.	25 Nos.
10.	Hack saws	25 Nos.
11.	Electric soldering iron 150 watt	10 Nos.
12.	Bridol	25 Nos.
13.	Philips screw driver No 1, 2, 3.	25 Nos. each
14.	Measuring tap 3m	25 Nos.
15.	Steel foot rule.	25 Nos.
16.	Files (Flat) 250 x 1, 200 x 2	25 Nos. each
17.	Files (Triangular) 150 x 2	25 Nos.
18.	Files (Half round) 200 x 2	25 Nos.
19.	Files (Round) 200 x 1	25 Nos.
20.	Files (Raps cut) 150	25 Nos.
21.	Bench Vice 5"	25 Nos.
22.	Tri square 150 x 100 mm	25 Nos.
23.	Vernier caliper 150 mm	25 Nos.
24.	Center punch	25 Nos.
25.	Hammer 500 gm	10 Nos.




26.	Scriber	25 Nos.
27.	Rubber hammer	10 Nos.
28.	Vice clamps	25 Nos.
29.	Insulation Remover 150 mm	25 Nos.
30.	Bearing puller	2 Nos.
31.	Farmer chisels 8".	10 Nos.
32.	Wooden saw 300 mm	10 Nos.
33.	Test boy	25 Nos.
34.	Volt meter (Panel type 4" x 4") 0-300V-AC 50 HZ	25 Nos.
35.	Ammeter (Panel type 4" x 4") 0-300V-AC 50 HZ	25 Nos.
36.	Multi-meter A.C / D.C (Digital)	25 Nos.
37.	Tong tester	2 Nos.
38.	Hand Electric drill machine with hammering 0-13 mm	2 Nos.
39.	Pedestal drill machine	2 Nos.
40.	Jigsaw machine portable	1 No
41.	Scissor 6"	5 Nos.
42.	Single phase energy meter 220V /10-20A	2 Nos.
43.	Three phase energy meter 30 A	2 Nos.
44.	Single Phase Motor           220 Volts 50Hz ½ HP	2 Nos.
45.	Three Phase Motor           380 Volts 50Hz 2 HP	2 Nos.

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**COMPUTER LAB**


S. No.	Tools / Equipment	Quantity
1.	Desktop computer (Specifications as per notification issued by MIS Section, TEVTA)	26 (1 for each student & 1 for the teacher)
2.	Printer (Laser)	01
3.	Scanner	01
4.	Internet Connection (At least 1 MB speed)	01
5.	UPS 10 KVA	01
6.	Air Conditioner 1 ½ Ton	02
7.	Multimedia Projector	01

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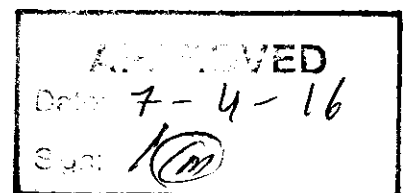
**LIST OF CONSUMABLE MATERIAL**

<b>Name of Trade</b>	<b>Industrial Electrician</b>
<b>Duration</b>	<b>3 Months</b>

<b>S. No.</b>	<b>Name of Tools / Equipment</b>	<b>Quantity</b>
1.	Dust brush / File brush	25 Nos each
2.	Duster (cotton)	25 Nos each
3.	Wire 3/0.029"	10 Coils
4.	Wire 1/0.044"	7 Coils
5.	Wire 7/0.029"	1 Coil
6.	Cable 3 core 3/0.029"	1 Coil
7.	Cable 4 core 3/0.029"	1 Coil
8.	Switch Single pole	5 Dozens
9.	Switch two way	5 Dozens
10.	Two Pin socket	3 Dozens
11.	Three Pin socket	3 Dozens
12.	Lamp holder	10 Dozens
13.	Incandescent Lamp (60/100/200 watt)	Dozen each
14.	Board Sheets 3"X3" ( 1 hole)	12 Dozens
15.	Board Sheets 7"X4" ( 4 hole)	3 Dozens
16.	Fuse kit Kat piano type 15 A	3Dozens
17.	PVC Pipe ½"	1000 feet
18.	PVC saddle ½"	25 Dozens
19.	PVC Board 3"X3"	12 Dozens
20.	PVC Board 7"X4"	3 Dozens
21.	PVC Junction Box ½" (3 way & 4 way)	4 Dozen each
22.	PVC Bend ½"	5 Dozens
23.	Steel screw ½" & ¾"	30 Packet each
24.	Connecter Bar 10 &16 Amp	30 Bars each
25.	Insulation Tape	3 Dozens

**APPROVED**  
 Date: 7-4-16  
 Sign: 

26.	Florescent Tube with fitting (complete) 2'	25 Nos.
27.	Bell Push	8 Dozens
28.	Bell / Buzzer	25 Nos.
28.	Bell indicator (set 8 rooms)	5 Nos.
29.	Magnetic Contactors 2 + 2 220 Volts / 10 A 50Hz	100 Nos.
30.	Push Button Single Way / Two Way / Three Way	25 Nos. Each
31.	Drum Switch ON / OFF, REV / FOR, Star / Delta	10 Nos. Each
32.	Overload Relay 0.5 – 3.0 Amp	25 Nos.
33.	Motor Protection Switch Three Phase	25 Nos.
34.	Time relay 8 pin with base	25 Nos.
35.	Assorted Stationary items according to Lab/workshop infrastructure and training requirements	As demanded by Instructor

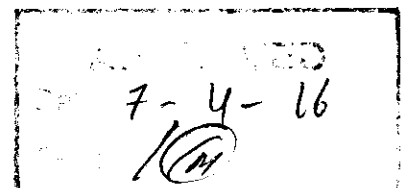


**Functional English**

S. No.	Item	Quantity
1.	Stationery	As per requirement
2.	Board Markers	As per requirement

**I.T Fundamentals**

S. No.	Item	Quantity
1.	Printing Paper	As per requirement
2.	Printer Toner	As per requirement



## EMPLOYABILITY OF PASS OUTS

The pass outs of this course may find job / employment in the following areas / sectors:-

1. Auto Mobile Industry
2. Packaging Industry
3. Railway Workshops
4. Irrigation Mechanical Workshop
5. HMC / POF
6. Own business / Self-employment

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## **REFERENCE BOOKS**

1. Metal Work by LUDWIG
2. Shop Theory by Anderson.
3. Industrial electrician technology by Mc Graw Hill Series

## **Functional English**

1. High School English Grammar By Wren & Martin
2. Oxford English Grammar

## **I.T Fundamentals**

1. Introduction to Computer by Peter Norton
2. 2007 Microsoft® Office System Step by Step by Joyce Cox, Steve Lambert and Curtis Frye
3. Internet and E-mail with Windows 7 by Studio Visual Steps

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**MINIMUM QUALIFICATION OF TEACHER**

**Industrial Electrician**

- DAE in Electrical / Electronics with 3 Years relevant experience

OR

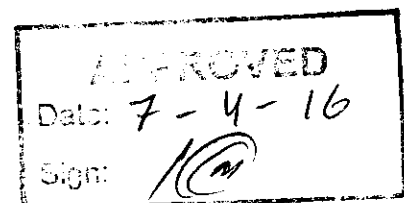
- Years Proficiency Certificate with 6 Years relevant experience

**Functional English**

- M.A. (English)


**I.T Fundamentals**

- DAE CIT/ BCS from HEC recognized university



**LIST OF TRADE RELATED JARGON**  
**GENERAL VOCABULARY WORDS**

Bradawl	سوا	Magnitude	مقدار
Capacitance	ظرفیت	Making	بنانا
Checking	جانچنا	Measurement	پیمائش
Components	حصے	Multiplication	ضرب
Conductance	ایصالیت	Parallel	متوازی
Conductivity	کرنٹ گزرنے کی صلاحیت	Percentage	فی صد
Conductor	موصل	Plier	پلاس
Connecting	جوڑنا	Power	طاقت
Consumer	صارف	Principle	اصول
Current	برقی رو	Protective Device	حفاظتی آلہ
Cutting	کاٹنا	Removing	ختم کرنا
Decimal	اعشاریہ	Resistance	مزاحمت
Diagram	شکل	Resistivity	مزاحمت کی صلاحیت
Energy	توانائی	Reversing	سمت تبدیل کرنا
Equipment	آلات	Scissor	قینچی
Faults	نقص	Screw Driver	پیچ کس
Files	ریتی	Semi-Conductor	نیم موصل
First Aid	ابتدائی طبی امداد	Series	سلسلہ وار
Fixing	لگانا	Soldering	ٹانکا لگانا
Hacksaw	لوہا کاٹنے والی آری	Specific Resistance	مزاحمت مخصوصہ
Hammer	ھتوڑا	Structure	ساخت
Handling	کنٹرول	Tools	اوزار
Identification	شناخت	Tracing	تلاش کرنا
Installation	لگانا	Tri square	گنیا
Insulation	حاجز تہہ	Understanding	سمجھنا
Insulation Remover	حاجز تہہ اتارنے والا آلہ	Vernier Caliper	ورنیئر کیلیپر
Insulator	حاجز	Voltage	وولٹیج
Magnet	مقناطیس	Work	کام

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**SPECIFIC VOCABULARY WORDS**

Alternating Current	متغیر کرنٹ	House Hold Appliances	گھریلو آلات
Assembling	جوڑنا	Laying	بچھانا
Bimetal Strip	دو میٹل پٹری	Magnetic Contactor	مقناطیسی کانٹیکٹر
Commutator	کاموٹیٹر	Momentary Switch	لمحاتی سوئچ
Chisel	چھینی	Pedestal Drill Machine	پیڈسٹل برما مشین
Direct Current	یکساں کرنٹ	Thermal Relay	حرارتی ریلے
Electric Iron	برقی استری	Thermostat	حرارت کنٹرول سوئچ
Fluorescent Tube	فلورسینٹ ٹیوب	Sandwich Maker	سینڈ وچ بنانے والی مشین
Hand Drill Machine	دستی برما مشین	Washing Machine	کپڑے دھونے والی مشین

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**Curriculum Revision Committee**

1. **Muhammad Mahboob Butt,** **Convener**  
Chief Instructor,  
GCT Sahiwal
2. **Mr. Asif Mahmood,** **Member**  
Deputy Manager,  
GSTC Gulberg-II,  
Lahore
3. **Muhammad Ashraf,** **Member**  
Chief Instructor (Electrical),  
GTTI Mughalpura, Lahore.

7-4-16

