

**Government of Pakistan**  
**National Vocational and Technical Training Commission**

**Prime Minister's Hunarmand Pakistan Program**

"Skills for All"



**Course Contents/ Lesson Plan**

**Course Title: Home Appliances Repair & Maintenance**

**Duration: 3 Months**

## Course Details / Description & Preliminaries

<b>Course Title</b>	<b>Home Appliances Repair &amp; Maintenance</b>
<b>Objectives and Expectations</b>	<p><b><u>Employable skills through an intensive course on Home Appliances Repair &amp; Maintenance</u></b></p> <p>This is a special course designed to address unemployment in the youth. The course aims to achieve the above objective through hands on practical training delivery by a team of dedicated professionals having rich market/work experience. This course is therefore not just for developing a theoretical understanding/back ground of the trainees. Contrary to that it is primarily aimed at equipping the trainees to perform commercially in a market space in independent capacity or as a member of a team.</p> <p>The course therefore is designed to impart not only technical skills but also soft skills (i.e. interpersonal/communication skills; personal grooming of the trainees etc.) as well as entrepreneurial skills (i.e. marketing skills; free lancing etc.). The course also seeks to inculcate work ethics to foster better citizenship in general and improve the image of Pakistani work force in particular.</p> <p><b>Main Expectations:</b></p> <p>In short, the course under reference should be delivered by professional instructors in such a robust hands- on manner that the trainees are comfortably able to employ their skills for earning money (through wage/self-employment) at its conclusion.</p> <p>This course thus clearly goes beyond the domain of the traditional training practices in vogue and underscores an expectation that a market centric approach will be adopted as the main driving force while delivering it. The instructors should therefore be experienced enough to be able to identify the training needs for the possible market roles</p>

**Key Features of  
Training & Special  
Modules**

available out there. Moreover, they should also know the strengths and weaknesses of each individual trainee to prepare them for such market roles during/after the training.

- i. Specially designed practical tasks to be performed by the trainees have been included in the Annexure-I to this document. The record of all tasks performed individually or in groups must be preserved by the management of the training Institute clearly labeling name, trade, session etc so that these are ready to be physically inspected/verified through monitoring visits from time to time. The weekly distribution of tasks has also been indicated in the weekly lesson plan given in this document.
  
- ii. In order to materialize the main expectations, a special module on **Job Search & Entrepreneurial Skills** has been included in the later part of this course (Last Week) through which, the trainees will be made aware of the Job search techniques in the local as well as international job markets (Gulf countries). Awareness around the visa process and immigration laws of the most favored labor destination countries also forms a part of this module. Moreover, the trainees would also be encouraged to venture into self-employment and exposed to the main requirements in this regard. It is also expected that a sense of civic duties/roles and responsibilities will also be inculcated in the trainees to make them responsible citizens of the country.

**Training Tools/  
Methodology**

In order to maintain interest and motivation of the trainees throughout the course, modern techniques such as:

- Motivational lectures
- Success stories
- Case studies

These techniques would be employed as an additional training tool wherever possible (these are explained in the subsequent section on Training Methodology).

Lastly, evaluation of the competencies acquired by the trainees will be done objectively at various stages of the training and proper record of the same will be maintained. Suffice to say that for such evaluations, practical tasks would be designed by the training providers to gauge the problem solving abilities of the trainees.

**(i) Motivational Lectures**

The proposed methodology for the training under reference employs motivation as a tool. Hence besides the purely technical content, a trainer is required to include elements of motivation in his/her lecture to inspire the trainees to utilize the training opportunity to the full and strive towards professional excellence. Motivational lectures may also include general topics such as the importance of moral values and civic role & responsibilities as a Pakistani. A motivational lecture should be delivered with enough zeal to produce a deep impact on the trainees. It may comprise of the following:

- Clear Purpose to convey message to trainees effectively.
- Personal Story to quote as an example to follow.
- Trainees fit so that the situation is actionable by trainees and not represent a just idealism.
- Ending Points to persuade the trainees on changing themselves.

A good motivational lecture should help drive creativity, curiosity and spark the desire needed for trainees to want to learn more.

Impact of a successful motivational strategy is amongst others commonly visible in increased class participation ratios. It increases the trainees' willingness to be engaged on the practical tasks for longer time without boredom and loss of interest because they can clearly see in their mind's eye where their hard work would take them in short (1-3years); medium (3 -10 years) and long term (more than 10 years).

As this tool is expected that the training providers would make arrangements for regular well planned motivational lectures as part of a coordinated strategy interspersed throughout the training period as suggested in the weekly lesson plans in this document.

#### **(ii) Success Stories**

Another effective way of motivating the trainees is by means of Success Stories. Its inclusion in the weekly lesson plan at regular intervals has been recommended till the end of the training.

A success story may be disseminated orally, through a presentation or by means of a video/documentary of someone that has risen to fortune, acclaim, or brilliant achievement. A success story shows how a person achieved his goal through hard work, dedication and devotion. An inspiring success story contains compelling and significant facts articulated clearly and easily comprehensible words. Moreover, it is helpful if it is assumed that the reader/listener knows nothing of what is being revealed. Optimum impact is created when the story is revealed in the form of:-

- Directly in person ( At least 2-3 cases must be arranged by the training institute)
- Through an audio/ videotaped message (2-3 high quality videos

must be arranged by the training institute)

It is expected that the training provider would collect relevant high quality success stories for inclusion in the training as suggested in the weekly lesson plan given in this document.

### **(iii) Case Studies**

Where a situation allows, case studies can also be presented to the trainees to widen their understanding of the real life specific problem/situation and to explore the solutions.

In simple terms, the case study method of teaching uses a real life case example/a typical case to demonstrate a phenomenon in action and explain theoretical as well as practical aspects of the knowledge related to the same. It is an effective way to help the trainees comprehend in depth both the theoretical and practical aspects of the complex phenomenon in depth with ease. Case teaching can also stimulate the trainees to participate in discussions and thereby boost their confidence. It also makes class room atmosphere interesting thus maintaining the trainee interest in training till the end of the course.

Depending on suitability to the trade, the weekly lesson plan in this document may suggest case studies to be presented to the trainees. The trainer may adopt a power point presentation or video format for such case studies whichever is deemed suitable but it's important that only those cases are selected that are relevant and of a learning value. The Trainees should be required and supervised to carefully analyze the cases.

For the purpose they must be encouraged to inquire and collect specific information / data, actively participate in the discussions and intended solutions of the problem / situation.

#### **Case studies can be implemented in the following ways:-**

- i. A good quality trade specific documentary (At least 2-3

	<p>documentaries must be arranged by the training institute)</p> <p>ii. Health &amp; Safety case studies (2 cases regarding safety and domestic accidents must be arranged by the training institute)</p>
<b>Learning Outcome of the Course</b>	<p>By the end of the course the trainees will be able to have following competencies and skills.</p> <ul style="list-style-type: none"> <li>• Adopt/Apply the electrical safety rules. Personal safety precautions of instruments/equipment and tools.</li> <li>• Carryout first aid treatment in case of any accident.</li> <li>• Use the hand tools and suitable accessories.</li> <li>• Understand and follow the operating guidelines and procedures.</li> <li>• Underused the installation of home appliances accordingly.</li> <li>• Perform test run.</li> <li>• Diagnose the faults and remedy of home appliances.</li> <li>• Carryout dismantling and assembling.</li> <li>• Demonstrate home electric appliance.</li> <li>• Replacement of faulty parts</li> <li>• Perform preventive repair &amp; maintenance</li> </ul>
<b>Course Execution Plan</b>	<p>Total duration of course: <b>3 months (13 Weeks)</b>  Class hours: <b>4 hours per day</b>  Theory: <b>20%</b>  Practical: <b>80%</b>  Weekly hours: <b>20 hours per week</b>  Total contact hours: <b>260hours</b></p>
<b>Companies Offering Jobs in the respective trade</b>	<p>Public/Private industries including:</p> <ol style="list-style-type: none"> <li>1. <b>Dawlance.</b></li> <li>2. <b>Electrolux.</b></li> <li>3. <b>Gree.</b></li> <li>4. <b>Haier.</b></li> <li>5. <b>Orient.</b></li> </ol>

	<b>6. Panasonic.</b> <b>7. Pel.</b> <b>8. Cement Factories</b> <b>9. Other Private &amp; Public organizations</b>
<b>Job Opportunities</b>	<ul style="list-style-type: none"> <li>• Home Appliance Repairer</li> <li>• Service Technician</li> <li>• Governmental institutes.</li> <li>• Semi-Governmental Institutes.</li> <li>• Private Institutes.</li> <li>• Power Stations</li> <li>• Railway Stations</li> <li>• Appliance production units</li> <li>• Overseas employment</li> <li>• Self-employment</li> <li>• Industries</li> <li>• Hospitals</li> </ul>
<b>No of Students</b>	25
<b>Learning Place</b>	Classroom / Lab / Workshop
<b>Instructional Resources</b>	



## WEEKLY SCHEDULE OF TRAINING

Scheduled Week	Module Title	Learning Units	Remarks
Week 1	<b>Basics of electricity and Electrical Cables</b>	<p><b>Motivational Lecture &amp; Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Safety precautions and first aid treatment, Basic Electrical theory Basic terms, electric charges, Potential difference, Voltage, Current, and Resistance, Electrical Symbols</li> <li>• Basics of AC &amp; DC. Terms such as positive cycle, negative cycle, Frequency, Time period, RMS, Peak value, peak to peak, instantaneous values,</li> <li>• Insulators, conductors and Semiconductors.</li> <li>• Different type of electrical cables and their specifications.</li> </ul>	<p><b>Task-1 (Day-1)</b> <b>Task-2 (Day-2)</b> <b>Task-3(Day-3)</b> <b>Task-4(Day-4)</b> <b>Task-5(Day-5)</b></p> <p>(Details maybe seen at Annexure-I)</p>
Week 2	<b>Electrical Instruments &amp; equipment's &amp; Multi-meter</b>	<p><b>Motivational Lecture Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Identification of Electrical Instruments.</li> <li>• Name &amp; Identification of Tools and equipment's.</li> <li>• Precaution to be taken in handling an analog &amp; Digital Multi-meter.</li> <li>• Study of different controls on Multimeter</li> <li>• Principle of operation of Analog &amp; Digital Multi-meter.</li> </ul>	<p><b>Task-6(Day-1)</b> <b>Task-7(Day-2)</b> <b>Task-8(Day-3)</b></p>

		<ul style="list-style-type: none"> <li>• Frequently occurring problems in Analog</li> <li>• multimeters and the remedial measures</li> <li>• Familiarization with operation controls of digital Multi-meter</li> <li>• Frequently occurring problems in Digital</li> <li>• Measurement's</li> </ul>	<b>Task-9(Day-4)</b> <b>Task-10(Day-5)</b> (Details maybe seen at Annexure-I)
Week 3	Basic Electronics Components	<p><b>Motivational Lecture &amp; Success Stories (For further detail please see Page No: 3&amp; 4)</b></p> <ul style="list-style-type: none"> <li>• Resistor-definition, types of resistors, their construction &amp; specific use, color-coding, power rating.</li> <li>• Types of inductors, specifications and applications.</li> <li>• Types of capacitors, specifications and Applications</li> <li>• Working principle of a Transformer, Specifications of a transformer, Step-up, Step down and isolation transformers.</li> <li>• Fuse – types, use of fuses and its rating.</li> </ul>	<b>Task-11(Day-1)</b> <b>Task-12(Day-1)</b> <b>Task-13(Day-2)</b> <b>Task-14 (Day-3)</b> <b>Task-15(Day-4)</b> <b>Task-16(Day-5)</b> <b>Task-17(Day-5)</b>  (Details maybe seen at Annexure-I)

<p><b>Week 4</b></p>	<p><b>Electrical Wiring &amp; Electrical Circuits</b></p>	<p><b>Motivational Lecture &amp; Success Stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Electrical Wiring</li> <li>• Circuit Diagrams</li> <li>• Symbols of wiring &amp; Home Appliances repair</li> <li>• Wiring Diagram (i-e Lay out Diagram, Wiring Diagram, Current path Diagram</li> <li>• Fault diagnosis and Remedies.</li> <li>• Power calculation of Appliances (i) Choice of Cable (ii) Selection of Accessories</li> </ul>	<p><b>Task-18(Day-1)</b> <b>Task-19(Day-2)</b> <b>Task-20(Day-3)</b> <b>Task-21(Day-4)</b> <b>Task-22(Day-5)</b> <b>Task-23(Day-5)</b></p> <p>(Details maybe seen at Annexure-I)</p> <p><b>Monthly Test 1</b></p>
<p><b>Week 5</b></p>	<p><b>Fluorescent Tube &amp; Electric Fan</b></p>	<p><b>Motivational Lecture &amp; Success Stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Parts of Fluorescent tube</li> <li>• Circuit Diagram</li> <li>• Faults Diagnosing</li> <li>• Types &amp; Parts of Fan</li> <li>• Circuit Diagram of Fan</li> <li>• Construction of Fan</li> </ul>	<p><b>Task-24(Day-1)</b> <b>Task-25(Day-1)</b> <b>Task-26(Day-2)</b> <b>Task-27(Day-3)</b> <b>Task-28(Day-4)</b> <b>Task-29 (Day-5)</b></p> <p>(Details maybe seen at Annexure-I)</p>

<p><b>Week 6</b></p>	<p><b>Electric Iron &amp; Washing machine</b></p>	<p><b>Motivational Lecture &amp; Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Principle of Electric Iron</li> <li>• Parts of Electric Iron</li> <li>• Types of Iron</li> <li>• Different types of machines, washing techniques, parts of manual, semi-automatic and fully automatic machines.</li> </ul>	<p><b>Task-30(Day-1)</b> <b>Task-31(Day-1)</b> <b>Task-32(Day-2)</b> <b>Task-33(Day-3)</b> <b>Task-34(Day-4)</b> <b>Task-35(Day-5)</b></p> <p>(Details maybe seen at Annexure-I)</p>
<p><b>Week 7</b></p>	<p><b>Vacuum Cleaner &amp; Microwave oven</b></p>	<p><b>Motivational Lecture</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Basic working principle of manual, semi-automatic and fully automatic Vacuum Cleaner.</li> <li>• Types of Vacuum Cleaner. Functioning of parts of Vacuum Cleaner</li> <li>• Different types of oven,</li> <li>• Study the various functions of Oven.</li> <li>• Electrical wiring diagram of microwave oven, working of Powersupply</li> </ul>	<p><a href="#">Overview of the previous weeks &amp; Mid Term Examination</a></p> <p><b>Task-36(Day-1)</b> <b>Task-37(Day-2)</b> <b>Task-38(Day-2)</b> <b>Task-39(Day-3)</b> <b>Task-40(Day-4)</b> <b>Task-41(Day-5)</b> (Details maybe seen at Annexure-I)</p>

	<b>Create an account profile on Fiverr (at least two gigs) and Upwork</b>	Create an account by following these steps: Step 1: Personal Info Step 2: Professional Info Step 3: Linked Accounts Step 4: Account Security	
<b>Week 8</b>	<b>Electric Heater &amp; Electric Kettle</b>	<b>Motivational Lecture &amp; Success stories</b> <i>(For further detail please see Page No: 3&amp; 4)</i> <ul style="list-style-type: none"> <li>• Working Principal of Electric Heater.</li> <li>• Types of Electric Heater</li> <li>• Parts of Electric Heater.</li> <li>• Circuit Diagram</li> <li>• Working Principle of Electric Kettle.</li> <li>• Parts of Electric Kettle</li> <li>• Circuit Diagram</li> <li>• Temperature control and timer unit.</li> </ul>	<b>Task-42(Day-1)</b> <b>Task-43(Day-2)</b> <b>Task-44(Day-2)</b> <b>Task-45(Day-3)</b> <b>Task-46(Day-4)</b> <b>Task-47(Day-5)</b> (Details maybe seen at Annexure-I)  <b>Monthly Test 2</b>
	<b>Build your CV</b>	Download professional CV template from any good site ( <a href="https://www.coolfreecv.com">https://www.coolfreecv.com</a> or relevant) <ul style="list-style-type: none"> <li>• Add Personal Information</li> <li>• Add Educational details</li> <li>• Add Experience/Portfolio</li> <li>• Add contact details/profile links</li> </ul>	

<p><b>Week 9</b></p>	<p><b>Toaster / Sandwich maker Mixer &amp; Grinder</b></p>	<p><b>Motivational Lecture &amp; Success stories</b> <i>(For further detail please see Page No: 3&amp; 4)</i></p> <ul style="list-style-type: none"> <li>• Principle of working of Toaster.</li> <li>• Various parts &amp; functions of Toaster.</li> <li>• Temperature control and timer unit</li> <li>• Principle of working of Sandwich maker.</li> <li>• Various parts &amp; functions of Sandwich maker and temperature control unit.</li> <li>• Various parts &amp; functions of Mixer/Grinder, speed control circuit &amp; automatic overload protector</li> </ul>	<p><b>Task-48(Day-1)</b> <b>Task-49(Day-2)</b> <b>Task-50(Day-2)</b> <b>Task-51(Day-3)</b> <b>Task-52(Day-4)</b> <b>Task-53(Day-5)</b> <b>Task-54(Day-5)</b></p> <p>(Details maybe seen at Annexure-I)</p>
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<p><b>Week 10</b></p>	<p><b>AC Electric Motor (Single Phase)</b></p>	<p><b>Motivational Lecture &amp; Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Construction of AC Single Phase Motor.</li> <li>• Working Principal of Motor.</li> <li>• Types of Electric Motor.</li> <li>• Parts of Electric Motor</li> <li>• Circuit Diagram of motor</li> <li>• Faults of Motor</li> </ul>	<p><b>Task-55(Day-1)</b> <b>Task-56(Day-2)</b> <b>Task-57(Day-3)</b> <b>Task-58(Day-4)</b> <b>Task-59(Day-5)</b> (Details maybe seen at Annexure-I)</p>
<p><b>Week 11</b></p>	<p><b>REFRIGERATION &amp; REFRIGERATION COMPONENTS</b></p>	<p><b>Motivational Lecture &amp; Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Refrigeration Concepts</li> <li>• Refrigeration Cycle</li> <li>• Refrigerants and Oils</li> <li>• Compressors</li> <li>• Evaporator Metering Devices</li> <li>• Evaporators and Condensers</li> <li>• Air Conditioning</li> </ul>	<p><b>Task-60(Day-1)</b> <b>Task-61(Day-2)</b> <b>Task-62(Day-3-4)</b> <b>Task-63(Day-5)</b> (Details maybe seen at Annexure-I)</p>

**How to search and apply for jobs in at least two labor marketplace countries (KSA, UAE, etc.)**

- Browse the following website and create an account on each website
  - Bayt.com – The Middle East Leading Job Site
  - Monster Gulf – The International Job Portal
  - Gulf Talent – Jobs in Dubai and the Middle East
- Find the handy 'search' option at the top of your homepage to search for the jobs that best suit your skills.
- Select the job type from the first 'Job Type' drop-down menu, next, select the location from the second drop-down menu.
- Enter any keywords you want to use to find suitable job vacancies.
- On the results page you can search for part-time jobs only, full-time jobs only, employers only, or agencies only. Tick the boxes as appropriate to your search.
- Search for jobs by:
  - Company
  - Category
  - Location
  - All jobs
  - Agency
  - Industry



<p><b>Week 12</b></p>	<p><b>AIR CONDITIONING APPLIANCES</b></p>	<p><b>Motivational Lecture &amp; Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Domestic Air Conditioners</li> <li>• Laws, Regulations and Code</li> <li>• Refrigerant Recovery, Recycling and Reclaiming</li> <li>• Refrigerant Management</li> <li>• Interprovincial Standards Red Seal Program</li> </ul>	<p><b>Task-64(Day-1)</b> <b>Task-65(Day-2)</b> <b>Task-66(Day-3&amp;4)</b> <b>Task-67(Day-5)</b> (Details maybe seen at Annexure-I)</p>
<p><b>Week 13</b></p>	<p><b>MAINTENANCE, TROUBLESHOOTING AND REPAIR /</b> <b>TROUBLESHOOTING AND SYSTEM COMPONENT REPLACEMENT</b></p>	<p><b>Motivational Lecture &amp; Success stories</b> (For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Leak Detection</li> <li>• Refrigeration Tools</li> <li>• Soldering and Brazing</li> <li>• System Evacuation, Dehydrating and Charging</li> <li>• Electrical Components</li> <li>• Troubleshooting and System Component Replacement</li> </ul>	<p><b>Task-68(Day-1)</b> <b>Task-69(Day-2)</b> <b>Task-70(Day-2)</b> <b>Task-71(Day-3)</b> <b>Task-72(Day-4)</b> <b>Task-73(Day-5)</b> (Details may be seen at Annexure-I)</p>
	<p><b>Entrepreneurship and Final Assessment in project</b></p>	<ul style="list-style-type: none"> <li>• Job Market Searching</li> <li>• Self-employment</li> <li>• Introduction</li> <li>• Fundamentals of Business Development</li> <li>• Entrepreneurship</li> <li>• Startup Funding</li> <li>• Business Incubation and Acceleration</li> <li>• Business Value Statement</li> </ul>	

		<ul style="list-style-type: none"><li>• Business Model Canvas</li><li>• Sales and Marketing Strategies</li><li>• How to Reach Customers and Engage CxOs</li><li>• Stakeholders Power Grid</li><li>• RACI Model, SWOT Analysis, PEST Analysis</li><li>• SMART Objectives</li><li>• OKRs</li><li>• Cost Management (OPEX, CAPEX, ROCE etc.)</li></ul>	
<b>Projects &amp; Final Assessment</b>			

## Annexure-I

**Note: The following tasks are required to be performed multiple times by each trainee/group until sufficient proficiency level is acquired. The trainer is required to determine the number of times, each task needs to be repeated by a trainee as per his/her low/medium/high level of skill and proficiency during any stage of the course.**

### Home Appliances Repair & Maintenance

Task No.	Task Description	Days	Week
1.	Practice procedure for electrical and personal safety measures	Day-1	Week-1
2.	Basic Electrical theory.	Day-2	
3.	Identify the Live, Neutral and Earth on power Socket.	Day-3	
4.	Identify and test different mains cables	Day-4	
5.	Measure the gauge of the wire using Standard Wire Gauge (SWG).	Day-5	
6.	Define the name and identification of electrical instruments.	Day-1	Week-2
7.	Define the name and identification of electrical tools and equipment's.	Day-2	
8.	Use the analog and digital Multi-meter to measure the AC & DC voltage by doing measurement at the test points provided.	Day-3	
9.	Adjust the zero-adjustment screw for proper zero setting with the help of a screwdriver before using Multi-meter.	Day-4	
10	Replace the battery and fuse in the Multi-meter.	Day-5	
11	Identify the different types of resistors.	Day-1	Week-3
12	Measure the resistor values using colour code and verify the reading by ensuring in multi-meter.		
13	Identify different inductors & capacitors and measure the values using LCR meter.	Day-2	
14	Dismantle and identify the different parts of a relay.	Day-3	
15	Identify different types of mains transformers and test them.	Day-4	
16	Identify the primary and secondary transformer windings.	Day-5	
17.	Measure the primary and secondary voltage of different transformers		
18.	Demonstrate Types of Symbols use in wiring and Home Appliances Repair	Day-1	Week-4
19.	Explanation of Wiring Diagram, Layout Diagram, Current Path Diagram.	Day-2	
20.	Describe types of Electrical Wiring.	Day-3	

21.	Fault Diagnosing and its remedies.	Day-4		
22.	Power Calculation of Home Appliances.	Day-5		
23.	Selection of Cable & Accessories for Home Appliances.			
24.	Explain parts of Fluorescent tube	Day-1	Week-5	
25.	Describe Circuit Diagram of Fluorescent tube.			
26.	Diagnosing and Testing of Fluorescent tube Circuit.			Day-2
27.	Identify internal & external parts of Fan			Day-3
28.	Assembling & Disassembling of Ceiling and Pedestal Fan			Day-4
29.	Connections of Ceiling and Pedestal Fan.	Day-5	Week-6	
30.	Demonstrate Types of Iron.	Day-1		
31.	Dismantle and identification of various parts, wiring, tracing of various Controls, circuits in Iron.			
32.	Identify the faults in iron & rectify			Day-2
33.	Installation of front & top load washing machine	Day-3		
34.	Identify the internal and external parts of semi-auto & fully automatic washing machine.	Day-4		
35.	Operate semi-automatic & fully automatic washing machine.	Day-5	Week-7	
36.	Describe Basic Principal of Vacuum Cleaner.	Day-1		
37.	Identify Internal & External parts and their functioning of Vacuum cleaner.	Day-2		
38.	Explain types and circuit Diagram of Vacuum Cleaner.			
39.	Describe Working Principle and Diagram of microwave oven.	Day-3		
40.	Identify the internal and external parts of microwave oven.	Day-4		
41.	Identify the different touch pad controls and their functions.	Day-5	Week-8	
42.	Assembling and Disassembling and Identify Internal & External parts of Electric Heater.	Day-1		
43.	Describe the Working Principle of Electric Heater.	Day-2		
44.	Rectify the faults of Electric Heater			
45.	Assembling and Disassembling of Electric Kettle.	Day-3		
46.	Explain Circuit Diagram and parts of Electric Kettle.	Day-4		
47.	Diagnose and rectify the faults of Electric Kettle.	Day-5	Week-9	
48.	Describe Working Principle of Toaster.	Day-1		
49.	Identify Internal & External parts of Toaster.	Day-2		
50.	Explain Temperature Control and Timer unit of Toaster			
51.	Describe Working Principle of Sandwich maker.	Day-3		
52.	Explain circuit Diagram and Temperature Control and Timer unit of Sandwich maker.	Day-4		

53.	Dismantle and identification of various parts, wiring, tracing of various Controls, Electronic circuits in various types of Mixers/grinders.	Day-5	
54.	Identify the faults in various types of Mixers/grinders & rectify		
55.	Assembling and Disassembling of the AC Electric Motor.	Day-1	Week-10
56.	Identify the Internal and External parts of Motor.	Day-2	
57.	Explain the working Principle of Motor.	Day-3	
58.	Explain Types of AC Motor.	Day-4	
59.	Diagnose and rectify the faults of AC Electric Motor.	Day-5	
60.	Describe the properties and characteristics of refrigerants and oils.	Day-1	Week-11
61.	Describe the operating principles of compressors.	Day-2	
62.	Describe the purpose, operation and test procedures of evaporators and Condensers.	Day-3 & 4	
63.	Describe the processes for conditioning air.	Day-5	
64.	Service air conditioning systems	Day-1	Week-12
65.	Perform procedures for refrigerant recovery, recycling and reclaiming	Day-2	
66.	Use refrigerant handling techniques.	Day-3 & 4	
67.	Use Red Seal products to challenge an Interprovincial examination	Day-5	
68.	Perform leak detection	Day-1	
69.	Use refrigeration tools.	Day-2	Week-13
70.	Perform soldering and brazing		
71.	Perform cleaning, evacuating, dehydrating, and charging of sealed systems.	Day-3	
72.	Diagnose electrical components in a refrigeration system	Day-4	
73.	Repair a sealed refrigeration system	Day-5	

**Repair & Maintenance of Domestic Electronics / Electrical Appliances**

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**What is freelancing and how you can make money online - BBCURDU**

<https://www.youtube.com/watch?v=9jCJN3Ff0kA>

**What Is the Role of Good Manners in the Workplace? By Qasim Ali Shah | In Urdu**

<https://www.youtube.com/watch?v=Qi6Xn7yKIIQ>

**Hisham Sarwar Motivational Story | Pakistani Freelancer**

[https://www.youtube.com/watch?v=CHm\\_BH7xAXk](https://www.youtube.com/watch?v=CHm_BH7xAXk)

**21 Yr Old Pakistani Fiverr Millionaire | 25-35 Lakhs a Month Income | Interview**

<https://www.youtube.com/watch?v=9WrmYYhr7S0>

**Failure to Millionaire - How to Make Money Online | Fiverr Superhero Aaliyaan Success Story**

<https://www.youtube.com/watch?v=d1hocXWSpus>

### Workplace/Institute Ethics Guide

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Work ethic is a standard of conduct and values for job performance. The modern definition of what constitutes good work ethics often varies. Different businesses have different expectations. Work ethic is a belief that hard work and diligence have a moral benefit and an inherent ability, virtue or value to strengthen character and individual abilities. It is a set of values centered on importance of work and manifested by determination or desire to work hard.

The following ten work ethics are defined as essential for employee's success:

1. **Attendance:**

Be at work every day possible, plan your absences don't abuse leave time. Be punctual every day.

2. **Character:**

Honesty is the single most important factor having a direct bearing on the final success of an individual, corporation, or product. Complete assigned tasks correctly and promptly. Look to improve your skills.

3. **Team Work:**

The ability to get along with others including those you don't necessarily like. The ability to carry your own weight and help others who are struggling. Recognize when to speak up with an ideas and when to compromise by blend ideas together.

4. **Appearance:**

Dress for success, set your best foot forward, personal hygiene, good manner, remember that the first impression of who you are, can last a life time

5. **Attitude:**

Listen to suggestions and be positive, accept responsibility. If you make a mistake, admit it. Values workplace safety rules and precautions for personal and co-worker safety. Avoids unnecessary risks. Willing to learn new processes, systems and procedures in light of changing responsibilities.

6. **Productivity:**

Do the work correctly, quality and timelines are prized. Get along with fellows, cooperation is the key to productivity. Help out whenever asked, do extra without being asked. Take pride in your

work, do things the best you know how. Eagerly focuses energy on accomplishing tasks, also referred to as demonstrating ownership. Takes pride in work.

**7. Organizational Skills:**

Make an effort to improve, learn ways to better yourself. Time management; utilize time and resources to get the most out of both. Takes an appropriate approach to social interactions at work. Maintains focus on work responsibilities.

**8. Communication:**

**Written communication**, being able to correctly write reports and memos.

**Verbal communications**, being able to communicate one on one or to a group.

**9. Cooperation:**

Follow institute rules and regulations, learn and follow expectations. Get along with fellows, cooperation is the key to productivity. Able to welcome and adapt to changing workplace situations and the application of new or different skills.

**10. Respect:**

Work hard, work to the best of your ability. Carry out orders, do what's asked the first time. Show respect, accept and acknowledge an individual's talents and knowledge. Respects diversity in the workplace, including showing due respect for different perspectives, opinions and suggestions.



### Suggestive Format and Sequence Order of Success Story

S. No	Key Information	Detail/Description
1.	<b>Self &amp; Family background</b>	<ul style="list-style-type: none"> <li>• Self-introduction</li> <li>• Family background and socio economic status,</li> <li>• Education level and activities involved in</li> <li>• Financial hardships etc</li> </ul>
2.	<b>How he came on board NAVTTC Training/ or got trained through any other source</b>	<ul style="list-style-type: none"> <li>• Information about course, apply and selection</li> <li>• Course duration, trade selection</li> <li>• Attendance, active participation, monthly tests, interest in lab work</li> </ul>
3.	<b>Post training activities</b>	<ul style="list-style-type: none"> <li>• How job / business (self-employment) was set up</li> <li>• How capital was managed (loan (if any) etc).</li> <li>• Detail of work to share i.e. where is job or business being done; how many people employed ( in case of self-employment/ business )</li> <li>• Monthly income or earnings and support to family</li> <li>• Earning a happy life than before</li> </ul>
4.	<b>Message to others (under training)</b>	<ul style="list-style-type: none"> <li>• Take the training opportunity seriously</li> <li>• Impose self-discipline and ensure regularity</li> <li>• Make Hard work pays in the end so be always ready for the same.</li> </ul>

**Note: Success story is a source of motivation for the trainees and can be presented in a number of ways/forms in a NAVTTC skill development course as under: -**

1. To call a passed out successful person of institute. He/she will narrate his/her success story to the trainees in his/her own words and meet trainees as well.
2. To see and listen to a recorded video/clip (5 to 7 minutes) showing a successful person Audio video recording that has to cover the above mentioned points.
3. The teacher displays the picture of a successful trainee (name, trade, institute, organization, job, earning per month etc) and narrates his/her story in teacher's own motivational words.