

### Reduced syllabus of Vocational Subject Electronics & Hardware: 2020-21

Topics to be covered(Theory+ Practical)	Topics to be reduced	Reason for reduction
<p>1. Basic of Electrical and Electronics: INTRODUCTION, ELECTRICITY, Source of Electricity, Energy foundation, Conductors and Insulators, ELECTRICAL QUANTITIES – Current, Classification of current, Resistance, Voltage, Electric Power. BASIC ELECTRIC CIRCUIT - Active and Passive components, Open and Closed Circuit, Series and Parallel circuits. OHM’S LAW, KIRCHHOFF’S LAW –KCL, KVL, Energy use in home appliances, BASIC ELECTRICAL TERMS.</p>	<p>Energy transformation, Types of Electricity, Power factor, ohm's experiment, problems on ohms law, Analysis of kirchhoff's laws.</p>	<ul style="list-style-type: none"> <li>• Less important</li> <li>• Experiment kit not available.</li> <li>• Too much details of the main topic.</li> </ul>
<p>2. ELECTRICAL AND ELECTRONIC COMPONENTS: INTRODUCTION, RESISTOR , color coding of 4 band resistors,series connection of resistors, Parallel connection of resistors. CAPACITOR, INDUCTOR, SEMICONDUCTOR basics, DIODE, TRANSISTOR, TRANSFORMER, LIGHT EMITTING DIODE.</p>	<p>Alphanumerically coded resistors, analysis of parallel ckt, Types of semiconductors, Identifying BJT Terminals, Identifying different types of transformers.</p>	<ul style="list-style-type: none"> <li>• Covered under parent topic, repeated .</li> <li>• Too much information.</li> <li>• Practical not possible due to covid-19.</li> </ul>
<p>3. TOOLS AND EQUIPMENTS: INTRODUCTION, MULTIMETER, LINE TESTER OR PHASE TESTER, DRILL BITS, WIRE STRIPPER, Wrench, Clamp meter,TOTAL DISSOLVED SOLIDS (TDS) METER, Soldering.</p>	<p>Construction of line &amp; phase tester, screw driver, combination plier, wire lugs, Hammer, ladder, Megger.</p>	<ul style="list-style-type: none"> <li>• All equipments can be identified in introduction,only details are removed of less relevant equipments.</li> <li>• Less important compared to other topics.</li> </ul>
<p>4. INSTALLING AN RO WATER PURIFIER INTRODUCTION, Different types of WATER TREATMENT agents- Chemicals, Filters, Purifiers, WATER FLOW DIAGRAM, Electric flow diagram,WATER PURIFICATION PROCESS, DIFFERENT TECHNOLOGIES IN WATER PURIFICATION, DIFFERENT FEATURES OF PURIFIER,COMPONENTS AND FUNCTIONING OF</p>	<p>Properties of water, water treatment methods,different steps of water purification process.</p>	<ul style="list-style-type: none"> <li>• Less important from practical point of view</li> <li>• Already covered with parent topic, is a repetition.</li> </ul>

Electronics and Hardware - Class 9

<p>RO,INSTALLATION PROCEDURE, Guideline for the installation of water purifier.</p>		
<p>5. REPAIR AND MAINTENANCE OF WATER PURIFIER: UNDERSTAND THE SYMPTOMS - Identify the concerns of the customers, interact with the Customers on Phone, interact with the Customer at their Premises, Identify the Fault, suggest a Solution to the Customer, replace dysfunctional part, MAINTENANCE OF RO WATER PURIFIERS, CONFIRM FUNCTIONALITY OF THE REPAIRED UNIT AND module, Take Feedback from Customer</p>	<p>Role play and other practical experiments.</p>	<ul style="list-style-type: none"> <li>• Not possible due to covid-19.</li> </ul>
<p>6. MAINTAIN HEALTH AND SAFETY INTRODUCTION, HAZARDS – Accidental, Physical and ELECTRICAL. ELECTRICAL RESCUE TECHNIQUES, HAZARD DUE THE TOOLS</p>	<p>Practical demonstrations.</p>	<ul style="list-style-type: none"> <li>• Not possible due to covid -19.</li> </ul>