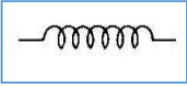

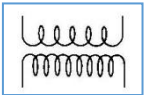
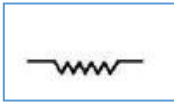















**Sample QB: LED Light Repair Technician-Theory**

| S.no | Question  | Option 1                    | Option 2                             | Option 3                             | Option 4                             | Answer |
|------|---|-----------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|
| 1    | Which of the following can cause a temporary change in the color of LED light?  | Power quality and heat rise | Cold rise only                       | Differentiated phosphor degeneration | All of the given options are correct | 1      |
| 2    | At what typical percentage drop in light output can LED light be considered to have undergone light degradation?                              | 0.75                        | 0.9                                  | 0.8                                  | 0.7                                  | 4      |
| 3    | If an LED light is experiencing system start-up issues, which of the following cannot be a reason for it?                                     | Lack of compatibility       | Individual system component failures | Control system issues                | Component Issue in driver            | 4      |
| 4    | If there are no desoldered or loose wires and connections, but the LED has still failed randomly, which of the following cannot be the cause? | Condensation                | Moisture                             | LED Mounting Issue                   | Driver issues                        | 3      |

|   |  |  |   |  |  |   |
|---|--|--|---|--|--|---|
| 5 | Which of the following should be avoided when soldering wires?   | Heat the connection, not the solder  | Don't overheat the connection while soldering       | Remove the tip from the connection as soon as the solder has flowed to the targeted area | Overflow the molten solder quantity to make a strong connection                    | 4 |
| 6 | Which of the following can be a cause of an LED light engine fault?  | Epoxy degradation  | Thermal stress                                      | Phosphor degeneration  | All of the above   | 4 |
| 7 | Which of the following should be avoided when applying test leads to an AC power source while using a multimeter?      | Be careful not to touch any energized conductors with any parts of your body | Ground yourself when taking electrical measurements | Keep your body isolated from ground  | Apply the test leads to the two points at which the voltage reading is to be taken | 2 |
| 8 | While using multimeter, if you were testing for a voltage higher than 20VDC you would set the selector switch to _____ | 20   | 50  | 100  | 200  | 4 |
| 9 | Which of the following can be reason of permanent colour shift of LED lights?  | Heat rise  | Power quality                                       | Differentiated phosphor degeneration   | Control system failure   | 3 |

|    |   |   |  |   |   |   |
|----|---|---|--|---|---|---|
| 10 | Which of the following symbol represents a transformer in the circuit diagram?  |  |  |  |  | 3 |
| 11 | Which of the following documents is necessary to understand the schematic of an LED light?  | Circuit diagram   | Job card   | Log sheet   | Standard Operating Procedure  | 1 |
| 12 | Which of the following symbol represents an LED in a circuit diagram?   |  |  |  |  | 2 |
| 13 | All the issues/problems should be reported according to the _____.  | Escalation matrix   | Organizational structure   | Safety manual   | Operation manual  | 1 |
| 14 | Identify the type of soldering tip in the below given image.<br> | Bevel tip   | Chisel tip   | Conical tip   | Point tip   | 2 |

|    |   |  |   |  |  |   |
|----|---|--|---|--|--|---|
| 15 | While checking an ESD wristband using a multimeter, what should be the resistance range, below or above which the wrist strap should be discarded?                | 0.09 - 0.1 Mega Ohms   | 0.9 - 1.1 Mega Ohms   | 0.1 - 0.9 Mega Ohms  | 0.9 - 1.1 Ohms   | 2 |
| 16 | If you suspect there might be an electrical hazard at a specific location, what is the best course of action to reduce the likelihood of such a hazard occurring? | Ignore using PPE   | Avoid visiting that location  | Asses and report the potential risk  | Just asses the risk involved   | 3 |
| 17 | Which of the following symbol used for sharp tools?   |  |  |  |  | 1 |

|    |  |   |  |   |   |   |
|----|--|---|--|---|---|---|
| 18 | Which of the following equipment should be used while working on a PCB in order to follow ESD procedure? |  |  |  |  | 1 |
| 19 | When the PAT testing should be done on the soldering iron rod ideally?                                   | Within 12 months  | Within 15 months   | Within 18 months  | Within 14 months  | 1 |
| 20 | Which of the following should be avoided while making wiring connections?                                | Use fray wire leads   | Use parallel connectors  | Use stranded wire   | Use straight wire leads   | 1 |

**Sample QB: LED Light Repair Technician-Viva**

| S.no | Viva Question  | Answer  |
|------|--|---|
| 1    | How would you identify loose, de-soldered wires and connections if the light does not switch on? | Step 1: Ensure Safety<br>Step 2: Visual Inspection<br>Step 3: Use a Multimeter<br>Step 4: Re-solder Connections<br>Step 5: Inspect for Damaged Components<br>Step 6: Test the Light   |
| 2    | What is the use of multimeter? Give any two.   | Measuring Voltage<br>Measuring Current<br>Measuring Resistance<br>Testing Continuity<br>Checking Diodes<br>Measuring Capacitance<br>Testing Transistors<br>Detecting Temperature (if equipped)<br>Identifying AC and DC Signals   |
| 3    | How will you repairing LED strip level fault? Mentions any three steps.                          | Step 1: Turn off Power: Disconnect the power supply to the LED strip.<br>Step 2: Inspect for Damage: Look for visible damage or burnt sections on the LED strip.<br>Check Connections: Ensure all connectors and solder joints are secure.<br>Step 3: Use a Multimeter to Test Continuity<br>Step 4: Identify Faulty LEDs<br>Isolate Faulty LED: Identify the specific LED or section that is not working.<br>Step 5: Cut Out Faulty Section<br>Step 6: Solder New Section<br>Step 7: Test the Strip, Reapply Power: Turn the power back on and test the LED strip.<br>Verify Operation: Ensure the entire strip functions correctly.   |
| 4    | How to use a LCR Meter. Give step in short.  | Step 1: Power On the LCR Meter<br>Step 2: Select Measurement Mode<br>Choose Parameter: Select L (inductance), C (capacitance), or R (resistance) mode as needed.<br>Step 3: Zero the Meter (if required)<br>Calibrate: Perform any necessary zeroing or calibration procedures.<br>Step 4: Connect the Component<br>Attach Leads: Connect the test leads to the component or device under test.<br>Step 5: Take the Measurement<br>Read Display: Observe the measurement value displayed on the meter.<br>Step 6: Interpret Results<br>Compare Values: Compare the measured value with the expected value for analysis.<br>Step 7: Power Off the Meter<br>Turn Off: Switch off the LCR meter after measurements are complete. |
| 5    | What are 5-S standards?  | The 5S standard is a workplace organization method that improves efficiency and safety by organizing the workspace. The 5S stands for: <ol style="list-style-type: none"> <li>1. Sort (Seiri)</li> <li>2. Set in Order (Seiton)</li> <li>3. Shine (Seiso)</li> <li>4. Standardize (Seiketsu)</li> <li>5. Sustain (Shitsuke)</li> </ol>  |

**Sample QB: LED Light Repair Technician-Practical**

| <b>S.no</b> | <b>Practical Scenario</b>  | <b>Rubrics</b>  |
|-------------|--|---|
| 1           | You have to diagnose the fault in the non-functional LED Light. Post proper diagnosis, repair the LED light and ensure that it is operational again. | <p>Candidate checks the wiring, connections and checks voltage and current output at different sections</p> <p>Candidate uses multimeter at different sections and repairs the fault, and reassembles the unit</p> <p>Candidate diagnoses fault and removes glass shell from the LED strips</p> <p>Candidate replaces the glass shell post repair or replacement of defective strips</p> <p>Candidate correctly finds the root cause of non-functional LED light and repairs it</p> <p>Candidate documents the fault diagnosis and repair process</p> |