



# **DIPLOMA IN AUTOMOBILE ENGINEERING**

## **CENTRALIZED QUESTION BANK**

**4021640 – Hybrid Electrical Vehicle Practical**

**DIRECTORATE OF TECHNICAL  
EDUCATION GOVERNMENT OF  
TAMILNADU**

## **DIPLOMA END SEMESTER / YEAR EXAMINATION – 2023**

**Course:** Automobile Engineering

**Subject :** Hybrid Electrical vehicle practical

**QP Code :** 4021640

**Time :** 3 Hours

**Date :**

**Session:**

**Max Marks:**100

### **Answer the following Questions**

1.     A) Test the Lead acid Battery on Open Circuit Voltage, Hydrometer and High Discharge Tests.  
       B) Assemble and test E-Auto rickshaw with differential and wiring harness.
2.     A) Construct and test battery backup for an Electric Vehicle.(Test the battery backup supply to glow the Head lamp).  
       B) Assemble and test E-bicycle with wiring harness.
3.     A) Test buck converter (DC to DC converter).  
       B) Assemble and test the wiring harness for two-wheeler accessories.
4.     A) Test the Inverter circuit (DC to AC Converter).  
       B) Identify and test EV components (Controller, Throttle, EV motor, Power ON Key & brake).
5.     A) Test the BLDC motor with triggering angle or Throttle control.  
       B) Assemble and test E-Bike with central drive mechanism (Chain drive) wiring harness.
6.     A) Test the battery charger unit and note the various charging parameter.  
       B) Test the Lead acid battery by using Battery voltage tester or Current Tester and indicate the status.

**DETAILED ALLOCATION OF MARKS:**

<b>S.NO</b>	<b>Description</b>	<b>Max . Marks</b>	<b>Marks obtained</b>
<b>PART - A</b>			
<b>1</b>	<b>Procedure/Observation</b>	<b>15</b>	
<b>2</b>	<b>Test report</b>	<b>30</b>	
<b>PART- B</b>			
<b>3</b>	<b>Procedure/Explanation</b>	<b>15</b>	
<b>4</b>	<b>Assemble/Test Report</b>	<b>30</b>	
<b>5</b>	<b>Viva-voce</b>	<b>10</b>	
<b>Total</b>		<b>100</b>	