

Automotive Technology 7<sup>th</sup> Edition  
Chapter 89: EV and HEV High-Voltage Batteries  
Short Answer Quiz

Name:

Date:

1. Explain the advantages of using higher voltage in electric motors for EVs and HEVs in terms of current flow and motor size.
2. Describe the inspection process for an electric water pump in a hybrid or electric vehicle.
3. Discuss the design and function of electric vehicle battery heater pads and their impact on battery performance.
4. What is a "Guess-O-Meter" in the context of electric vehicles, and how can it be used to plan a trip?
5. Explain why higher voltage motors draw less current and the implications of this for electric vehicle design.

Automotive Technology 7<sup>th</sup> Edition  
Chapter 89: EV and HEV High-Voltage Batteries  
Short Answer Quiz

Name:

Date:

6. Detail the concept of passive battery cell balancing and its role in maintaining long battery life in EVs and HEVs.

7. Compare the different types of battery cells used by Tesla in their various models and discuss the advantages of each type.

8. Explain the difference between EPA and WLTP standards in estimating electric vehicle range and how to convert between them.

9. Describe the relationship between battery capacity in kWh and vehicle range in miles for electric vehicles.

10. Discuss the concept of State of Charge (SOC) control in hybrid electric vehicles and the importance of maintaining it within a specific range.