

Electric and Hybrid Electric Vehicles, 1st Edition

Quiz 19B

NAME _____

1. The negative electrode in a fuel cell is called a(an) _____. 1. _____
 - A) anode
 - B) cathode
 - C) diode
 - D) None of these are correct

2. The electric traction motors in a fuel-cell hybrid vehicle is similar to a _____ vehicle. 2. _____
 - A) engine driven
 - B) hybrid
 - C) 4WD
 - D) electric

3. How energy-efficient is a typical internal combustion engine? 3. _____
 - A) 15-20%
 - B) 40-60%
 - C) 5-10%
 - D) None of these are correct

4. Which type of fuel cell is the most likely to be used to power vehicles? 4. _____
 - A) PAFC
 - B) PEM
 - C) MCFC
 - D) SOFC

5. Which of the following describes why fuel cell technology is not in mass production? 5. _____
 - A) High cost
 - B) Lack of durability
 - C) Insufficient power density
 - D) All of these are reasons vehicles with fuel cells are not currently mass-produced.

6. HCCI is a process that eliminates what parts or components in a gasoline engine? 6. _____
 - A) Fuel tank
 - B) Battery
 - C) Fuel injectors
 - D) Ignition system

7. Which liquid fuel could be used to directly power a fuel cell? 7. _____
 - A) Methanol
 - B) Ethanol
 - C) Biodiesel
 - D) Unleaded gasoline

8. Technician A says that a fuel cell stack consists of a number of fuel cells connected in parallel. Technician B says that a fuel cell stack consists of a number of fuel cells connected in series. Which technician is correct? 8. _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B
9. Technician A says that fuel cell cooling systems can use heat exchangers with small surface areas. Technician B says that fuel cell cooling systems must use heat exchangers with large surface areas. Which technician is correct? 9. _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B
10. What are the by-products (emissions) from a fuel cell? 10. _____
- A) Water vapor
 - B) CO₂
 - C) CO
 - D) Nonmethane hydrocarbon

Answer Key

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1. A
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2. B
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3. A
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4. B
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5. D
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6. D
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7. A
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8. B
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9. B
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10. A
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