

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) If a wide band oxygen sensor is used, it may be called a _____. 1) _____
 - A) Wide-band oxygen sensor
 - B) Linear air-fuel sensor
 - C) Lean air-fuel sensor
 - D) All of the above

- 2) Technician A says that variable valve timing improves performance. Technician B says that cylinder deactivation helps improve performance. Which technician is correct? 2) _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

- 3) During a complete combustion cycle in a four-cycle engine, the crankshaft revolves how many degrees? 3) _____
 - A) 720
 - B) 360
 - C) 240
 - D) 180

- 4) Hybrid electric vehicles _____. 4) _____
 - A) Usually do not use a conventional starter motor
 - B) May use an offset engine crankshaft to reduce internal friction
 - C) Both A and B
 - D) Neither A nor B

- 5) Technician A says that the Atkinson cycle improves combustion efficiency by leaving the intake valve open longer than normal. Technician B says that this increases the effective compression ratio. Which technician is correct? 5) _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

- 6) Which of these is NOT a characteristic of the gasoline engines that are used in hybrid vehicles? 6) _____
 - A) Uses the electric motor to start the engine
 - B) Has a larger than usual displacement
 - C) A low viscosity oil is used
 - D) Has a smaller than usual displacement

- 7) Technician A says that most HEVs use a special hybrid fuel injection system to deliver fuel to the internal combustion engine. Technician B says that HEVs use an ignition system to fire the spark plugs of the internal combustion engine. Which technician is correct? 7) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 8) Hybrid electric vehicle gasoline engines often use what systems to achieve maximum fuel economy? 8) _____
- A) Returnless fuel delivery system
 - B) Wideband oxygen sensors
 - C) Variable valve timing
 - D) All of the above
- 9) Which of these engine types operates most smoothly? 9) _____
- A) Eight cylinder
 - B) Six cylinder
 - C) Four cylinder
 - D) There is no noticeable difference.
- 10) What is the term used to describe engines where the intake valve is left open for a short time after the piston begins its upward travel on the compression stroke? 10) _____
- A) Atkinson cycle
 - B) Miller cycle
 - C) Wankel cycle
 - D) None of these

Answer Key

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1) D

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2) A

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3) A

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4) C

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5) A

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6) B

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7) B

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8) D

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9) A

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10) A

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