Automotive Technology 7th Edition
Chapter 28
Multiple Choice Quiz B

Name: _____ Date: _____

1. What distinguishes a "dual overhead camshaft (DOHC)" engine design?
A. It uses a single camshaft for both intake and exhaust valves.
B. It lacks any camshafts, relying on electronic valve control.
C. It uses two overhead camshafts per bank of cylinders.
D. It operates without the need for valve trains.

2. Which material is NOT mentioned as a construction material for camshafts?
A. Chilled cast iron.
B. Forged steel.
C. Solid billet steel.
D. Aluminum alloy.

3. What is a primary characteristic of "Composite camshafts"?
A. They are made entirely of lightweight materials for racing applications.
B. They consist of a lightweight tubular shaft with hardened steel lobes press-fitted over the shaft.
C. They are primarily used in diesel engines due to their heat resistance.
D. They are made by joining multiple camshafts together.

4. Why are camshaft-bearing journals larger than cam lobes in pushrod engines?
A. To provide better lubrication to the cam lobes.
B. To ensure the camshaft can be installed in the engine through the cam bearings.
C. To reduce wear and tear on the cam lobes.
D. To improve the aerodynamics of the camshaft.

5. What is the significance of the camshaft's hardness in its operation?
A. It determines the camshaft's weight.
B. It affects the camshaft's color and aesthetic appeal.
C. It dictates how the camshaft responds to electrical currents.
D. It influences the camshaft's wear resistance and susceptibility to chipping.

6. Which hardening method results in a hardness thickness of ~ 0.0015 to 0.0018 inches?
A. Liquid nitriding.
B. Gas nitriding.
C. Induction hardening.
D. Oil quenching.

7. What is the typical hardness range for camshafts on the Rockwell "c" scale?
A. 10 to 30 Rc.
B. 30 to 42 Rc.
C. 42 to 60 Rc.
D. 60 to 80 Rc.

8. If the outer hardness of a camshaft wears off, what is a possible outcome?
A. The camshaft becomes more aerodynamic.
B. The lobes of the camshaft can become almost completely rounded.
C. The camshaft can increase engine power output.
D. The camshaft's color may change.

9. Which of the following statements best describes the relationship between the camshaft and the crankshaft in four-stroke cycle engines?
A. The camshaft turns at twice the speed of the crankshaft.
B. The camshaft and the crankshaft turn at the same speed.
C. The camshaft turns at one-half the speed of the crankshaft.
D. The relationship between the camshaft and crankshaft speeds varies based on the engine design.

10. Which component is NOT mentioned as being operated by the camshaft in the given content?
A. Mechanical fuel pump
B. High-pressure fuel pump in gasoline direct-injected engines
C. Oil pump
D. Alternator

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Answer Key

1. C

2. D

3. B

4. B

5. D

6. B

7. C

8. B

9. C

10. D