

Automotive Electrical and Engine Performance 9th Edition
Chapter 7 – In-Vehicle Engine Service
Quiz A

1. What is the most common reason for intake manifold gasket failure in a V-type engine?
 - a. Expansion/contraction rates causing fretting
 - b. Lack of routine maintenance
 - c. Use of non-specified coolant
 - d. Incorrect torque during installation

2. What is the proper coolant condition to check before replacing a thermostat?
 - a. Ensure the coolant is at room temperature and properly drained
 - b. Verify the coolant's specific gravity using a hydrometer
 - c. Check for trapped air in the system using a bleeder valve
 - d. Confirm no oil contamination in the coolant reservoir

3. What torque unit is often specified for plastic intake manifold fasteners?
 - a. Pound-feet
 - b. Newton-meters
 - c. Pound-inches
 - d. Kilogram-force meters

4. What is a common sign that a water pump impeller is failing?
 - a. Coolant leaking from the weep hole
 - b. Reduced coolant flow due to slipping or worn impeller blades
 - c. Excessive noise from a faulty bearing
 - d. Overheating after engine warm-up

5. Why should a skewed thermostat be replaced immediately?
- a. It causes improper coolant temperature regulation
 - b. It increases engine efficiency but risks overheating
 - c. It allows coolant to circulate without temperature control
 - d. It can lock the PCM into a diagnostic code loop
6. Which engine component commonly requires replacement alongside a timing belt?
- a. Water pump
 - b. Cylinder head gasket
 - c. Camshaft position sensor
 - d. Fuel pressure regulator
7. What diagnostic trouble code (DTC) may indicate a partially open thermostat?
- a. P0128
 - b. P0300
 - c. P0171
 - d. P0455
8. What is a critical safety step before working under the hood of a hybrid electric vehicle?
- a. Verify the "READY" light is off and the ignition key is removed
 - b. Disconnect the battery and remove all electrical connectors
 - c. Ground the high-voltage system to prevent surges
 - d. Use a non-conductive probe to test circuit continuity
9. What is the primary cause of excessive noise in gasoline direct-injection systems?
- a. Worn injector tips
 - b. The high-pressure operation of injectors
 - c. Misaligned fuel rails causing increased vibration
 - d. Carbon deposits around the fuel nozzles

10. What oil viscosity is often specified for hybrid gasoline engines?

- a. SAE 0W-16 or SAE 0W-20
- b. SAE 5W-30 or SAE 10W-30
- c. SAE 0W-20 or SAE 5W-20
- d. SAE 10W-40 or SAE 5W-40

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Correct Answers:

1. b

2. a

3. d

4. b

5. c

6. a

7. d

8. a

9. b

10. c