

Automotive Electrical and Engine Performance 9th Edition
Chapter 17 – Lighting and Signal Circuits
Multiple Choice Questions Quiz B

1. What is the primary function of adaptive front lighting systems (AFS)?
 - a. To dim the headlights during foggy conditions
 - b. To adjust the brightness of daytime running lights
 - c. To rotate headlights in the direction of travel during cornering
 - d. To turn on headlights automatically when it is dark

2. What is the Kelvin color temperature of daylight, typically referenced in lighting systems?
 - a. 3,200°K
 - b. 4,100°K
 - c. 5,400°K
 - d. 6,000°K

3. In vehicles with body control module (BCM)-controlled lighting, what happens when communication fails?
 - a. The lights turn off automatically to save power
 - b. The lights default to the "on" position for safety
 - c. The BCM resets and reboots
 - d. A diagnostic trouble code is displayed immediately

4. Why are LEDs preferred over traditional incandescent bulbs in automotive lighting?
 - a. They are more resistant to vibration and last longer
 - b. They provide higher current draw
 - c. They heat up quickly and provide strong glare
 - d. They are easier to replace

5. What is a key reason halogen bulbs fail when touched with bare hands?
- a. They short-circuit due to oil contamination
 - b. The heat causes the oil from fingers to create hotspots on the glass
 - c. They lose efficiency because of oxidation
 - d. They become dimmer due to filament deterioration
6. High-intensity discharge (HID) headlights typically produce light in what color temperature range?
- a. 2,800°K
 - b. 3,200°K
 - c. 4,100°K
 - d. 5,500°K
7. When testing bulbs, what resistance measurement indicates a broken filament?
- a. OL (open loop)
 - b. 0 ohms
 - c. 20 ohms
 - d. A value less than 0.5 ohms
8. What function does the brake pedal position (BPP) switch serve in modern vehicles?
- a. It only controls brake light activation
 - b. It provides signals for systems like ABS, cruise control, and shift interlock
 - c. It monitors vehicle speed for the adaptive front lighting system
 - d. It regulates voltage supply to the headlights

9. What is the common symptom of a failing HID bulb that indicates it needs replacement?

- a. A dim pink glow from the headlight
- b. Flickering of the headlight
- c. Both a and b
- d. The headlight is too bright

10. What is the function of automatic dimming mirrors?

- a. They reduce headlight glare by using electrochromic technology
- b. They adjust the brightness of headlights
- c. They synchronize with adaptive front lighting systems
- d. They enable daytime running lights to turn on automatically

Automotive Electrical and Engine Performance 9th Edition
Chapter 17 – Lighting and Signal Circuits
Answer Key Quiz B

Correct Answers:

1. c
2. c
3. b
4. a
5. b
6. c
7. a
8. b
9. c
10. a