Automotive Electrical and Engine Performance 9th Edition
Chapter 23 – Advanced Driver Assist Systems (ADAS)
Multiple Choice Questions Quiz B

1. What is the primary purpose of Advanced Driver Assist Systems (ADAS)?

a. To allow vehicles to drive autonomously without any driver intervention

b. To help drivers avoid collisions and improve vehicle safety

c. To provide entertainment features in vehicles

d. To replace traditional mechanical systems in vehicles

2. Which sensor is most commonly used in lane departure warning systems to detect road markings?

a. Ultrasonic sensor

b. Infrared sensor

c. Camera sensor

d. Radar sensor

3. What is the role of ultrasonic sensors in parking-assist systems?

a. Detect the speed of approaching vehicles

b. Measure the distance between the vehicle and nearby objects

c. Recognize road signs for Intelligent Speed Advice (ISA)

d. Enhance audio clarity by reducing vibrations

4. What is the function of a rear cross-traffic warning (RCTW) system?

a. Alerts drivers to obstacles in front of the vehicle

b. Detects lane departures and provides corrective steering

c. Monitors the driver's attention level

d. Warns drivers of vehicles approaching from the side while reversing

5. How does adaptive cruise control (ACC) differ from traditional cruise control?

a. It maintains a fixed speed regardless of traffic conditions.

b. It uses radar to maintain a safe following distance from other vehicles.

c. It adjusts speed based solely on driver input.

d. It automatically takes over steering in tight curves.

6. In automatic emergency braking (AEB) systems, what happens when an imminent collision is detected?

a. The brakes are applied autonomously to minimize impact.

b. The vehicle shuts off power to prevent further movement.

c. A warning is displayed on the dashboard, but no action is taken.

d. The system activates the parking brake.

7. Which system uses haptic feedback, such as steering wheel vibrations, to alert drivers?

a. Adaptive cruise control

b. Lane departure warning system

c. Rear cross-traffic alert

d. Parking-assist system

8. What type of technology does LiDAR use to detect objects in advanced driver assist systems?

a. Radar waves

b. Electromagnetic fields

c. Ultrasonic signals

d. Light pulses

9. When is calibration of ADAS cameras or radar systems typically required?

a. After replacing a bumper or windshield

b. Every 6,000 miles

c. After routine oil changes

d. Whenever the vehicle is restarted

10. What does Dedicated Short-Range Communication (DSRC) enable in autonomous vehicles?

a. Enhanced in-car entertainment features

b. Communication between vehicles and infrastructure for safety-critical messages

c. Real-time navigation map updates

d. Hands-free calling and media streaming

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Answer Key Quiz B

Correct Answers:

1. b

2. c

3. b

4. d

5. b

6. a

7. b

8. d

9. a

10. b