

Name _____

How Do Autonomous Vehicles Navigate and Sense Their Surroundings?

Multiple Choice Questions

1. Which sensor in autonomous vehicles emits laser beams to create a 3D map of the surroundings?

- a) Radar
- b) Lidar
- c) Cameras
- d) GPS

2. What role does GPS play in autonomous vehicle navigation?

- a) It detects obstacles on the road.
- b) It creates 3D maps of the surroundings.
- c) It provides the vehicle's exact location on Earth.
- d) It captures images of the road.

3. What technology helps self-driving cars recognize traffic signs and pedestrians?

- a) Radar
- b) Ultrasonic Sensors
- c) Cameras
- d) Lidar

4. How do autonomous vehicles process data to make decisions in real time?

- a) By using machine learning and artificial intelligence
- b) By relying solely on GPS
- c) By manual input from human operators
- d) By following pre-set routes

5. Why are redundancy and backup systems important in autonomous vehicles?

- a) To save energy
- b) To reduce vehicle weight
- c) To ensure safety in case of system failures
- d) To increase speed

