

✔ Congratulations! You passed!

Grade received 100% To pass 80% or higher

Go to next item

1. Which of the following tasks are associated with perception? (Select all that apply)

1 / 1 point

✔ Identifying road signs

✔ Correct

Correct, perception deals with object identification.

✔ Estimating the motion of other vehicles

✔ Correct

Correct, perception deals with position and motion estimation.

❑ Planning routes on a map

❑ Responding to traffic light state changes

2. Which of the following can be on road objects? (Select all that apply)

1 / 1 point

✔ Vehicles

✔ Correct

Correct, vehicles can be on road objects. They can also be off road.

❑ Sidewalks

✔ Potholes

✔ Correct

Correct, potholes in the drivable surface are on road objects.

❑ Stop signs

3. Which of the following tasks pose challenges to perception? (Select all that apply)

1 / 1 point

✔ Detecting, tracking and predicting dynamic object motions

✔ Correct

✔ Handling sensor uncertainty

✔ Correct

✔ Having sensors work in adverse weather conditions

✔ Correct

✔ Handling sensor occlusion and reflection

✔ Correct

4. Which of the following sensors are used for ego localization? (Select all that apply)

1 / 1 point

❑ Radar

✔ Global Navigation Satellite System (GNSS)

✔ Correct

Correct, a GNSS sensor provides position and velocity measurements, and can be used to estimate vehicle position and orientation for localization.

✔ Inertial Measurement Unit (IMU)

✔ Correct

Correct, an IMU provide acceleration and rotation rate measurements from accelerometers and gyroscopes, and can be used to estimate vehicle orientation and aid in localization in general.

❑ Barometers

5. Which of the following objects would be relevant for perception in adaptive cruise control?

1 / 1 point

Ⓐ Other vehicles

Ⓑ Traffic lights

Ⓒ Lane markings

Ⓓ Road signs

✔ Correct

Correct, adaptive cruise control detects vehicles ahead to control speed and to maintain safe driving distances.