Lesson 2: Practice Quiz

TOTAL POINTS 5

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.

   ☐ Responding to traffic light state changes

   ☑ Estimating the motion of other vehicles

   > ✓ **Correct**
   > Correct, perception deals with position and motion estimation.

   ☐ Planning routes on a map

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.

   ☐ Stop signs

   ☐ Sidewalks

   ☑ Potholes

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

3. Which of the following tasks pose challenges to perception? (Select all that apply)   `1 / 1 point`

   ☑ Handling sensor uncertainty

   > ✓ **Correct**

☑ Having sensors work in adverse weather conditions

✓ **Correct**

☑ Handling sensor occlusion and reflection

✓ **Correct**

☑ Detecting, tracking and predicting dynamic object motions

✓ **Correct**

4. Which of the following sensors are used for ego localization? (Select all that apply)　　　**1 / 1 point**

☑ 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

☐ 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.

5. Which of the following objects would be relevant for perception in adaptive cruise control?　　　**1 / 1 point**

◯ Lane markings

◯ Road signs

◯ Traffic lights

◉ Other vehicles

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