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| **PART TWO Information Technology Technical Question 3 mins** |

In this part of the exam, you will talk about **Autonomous Vehicles.** The following ideas will help you.

* What technologies are used in autonomous vehicles (e.g., Radar, cameras, sensors)?
* What are the **advantages and disadvantages** of autonomous vehicles?
* Would you use an autonomous Vehicle?
* When do you think autonomous vehicles will be widely available?

**2A**

A person in a car reading a magazine

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**2B**

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* What technologies are used in autonomous vehicles (e.g., Radar, cameras, sensors)?
* **Lidar (Light Detection and Ranging):** Uses laser pulses to create a detailed 3D map of the environment.
* **Radar** (Radio Detection and Ranging): Utilizes radio waves to detect position and speed.
* **Cameras**: Capture visual information to identify road signs, traffic lights, lane markings.
* objects at close range.
* **Artificial Intelligence (AI) and Machine Learning**
* **GPS and High-Definition Mapping:** Provide precise location data and detailed maps.
* What are the advantages and disadvantages of autonomous vehicles?

**Advantages:**

* **Reduced Traffic Congestion:** Optimized driving patterns can ease traffic flow.
* **Increased Safety:** Minimize human errors, which are a common cause of accidents.
* **More Free Time:** Passengers can use travel time productively.
* **Lower Transportation Costs**: Potentially reduce the need for personal car ownership.
* **Environmental Benefits**: Reduce carbon emissions.

**Disadvantages:**

* **Handling Unpredictable Situations**: Struggle with sudden weather changes.
* **High Production Costs**: Advanced technology makes these vehicles expensive.
* **Dependence on Technology**: Failures in technology could lead to accidents.
* **Job Losses:** Could impact employment in driving-related industries.
* **Privacy and Security Concerns:** Risks of hacking and misuse of personal data
* Would you use an autonomous vehicle?
* When do you think autonomous vehicles will be widely available?

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**2B**

**2A**