Advanced Driver Assistance Systems (ADAS)

Why in news?

Car manufactures have started providing ADAS which could create a safe traffic environment resulting in reduced accidental death.

What is advanced driver assistance systems (ADAS)?

- **Electronic system** - Advanced Driver Assistance Systems (ADAS) is an electronic system of automated vehicle safety features.
- The System uses innovative sensor technology to provide information, warnings, and assistance to the driver while they are driving.
- **Prevent death** - The role of ADAS is to prevent deaths and injuries by reducing the number of car accidents and the serious impact of those that cannot be avoided in road.
- **Applications** - Some applications of ADAS are

1. Adaptive Cruise Control 2. Glare-Free High Beam Light 3. Adaptive Light Control 4. Automatic Parking	5. Autonomous Valet Parking 6. Navigation System 7. Night Vision 8. Unseen Area Monitoring

- **Autonomous driving** - Many of the features that are included in an ADAS system are essential for autonomous driving.

What is autonomous-driving?

- Autonomous driving is the ability of a vehicle to drive itself.
- There are different levels of autonomous driving, each with its own set of requirements and capabilities.

Self-driving is a future concept or vision in which cars would be able to complete all phases from start to finish without any human input.

What are the challenges to self-driving cars?

- **Limited success** - The test conducted by various companies for self-driving have not yielded any success.
- **No consensus** - While few companies choose cameras for self-driving whereas few companies uses combination of technology such as include LIDAR, radar, sensors and camera.

- **Prediction** - The available technology at present do not have the capacity of the humans to predict and take decision in the complex traffic scenario.
- **Lack of government support** - Only the private companies are investing in the self-driving technologies and there is lack of support from the government.

Reference

1. The Indian Express | Challenges To Self-Driving

