**Extempore Activity**

* **IT in Automobiles**
* **IT in Metro Rail**
* **IT in Avionics**
* **IT in Automobiles:**
* The use of artificial intelligence (AI) in automobiles is expected to grow exponentially due to the advancement in autonomous vehicles. In recent years, AI has revolutionized various sectors including automobile, banking, agriculture, and healthcare among others with the introduction of digital assistants such as Chat-bots.
* IT in automobile industry :
* The use of IT in automobile industry has revolutionized automobile design, manufacturing and utilization.
* Applications, usage of IT in Automobiles :
* Designing Cars.
* Developing Prototypes.
* Handling Assembly Line Manufacturing.
* Monitoring Product Performance.
* Improving Efficiency.
* Safeguarding Travelling.

1. Autonomous Vehicles: AI and sensors are being developed for self-driving cars.

2. Connected Cars: IOT can make the vehicles, network with each other and infrastructure.

3. Electric Vehicles: IT system manages battery performance and charging networks.

4. Safety Systems: Advanced Driver Assistance Systems (ADAS) like lane assist and collision detection to name a few.

5. Infotainment: Real-time navigation, voice command and infotainment system.

* Benefits:
* Increased safety and reduce the probability of accident.
* Improved user experience.
* **IT in Metro Rails:**
* IT plays a very important role in smooth operation and modernization of metro rail systems.
* Applications:
* Automated Fare Collection: Smart card systems and mobile ticketing.
* Train Control Systems: CBTC (Communication-Based Train Control) for automation and efficiency.
* Passenger Information Systems: Current information regarding the train schedules, delays and routes.
* Security: CCTV surveillance, face recognition and emergency response system.
* Maintenance: Predictive maintenance through IOT and big data analytics.
* Benefits:
* Reduced operational costs
* Improved passenger convenience and safety
* Efficient use of resources
* Conclusion:

It made metro system as a reliable and convenient public transport.

* **IT in Avionics:**
* Introduction:

IT in avionics focuses on improving aircraft performance, safety, and passenger comfort.

* Applications:

1. Flight Control Systems: Fly-by-wire technology for automated control.

2. Navigation: GPS and advanced navigation systems for accurate routing.

3. Communication: Satellite communication for real-time updates and coordination.

4. In-flight Entertainment: Personalized entertainment systems for passengers.

5. Aircraft Health Monitoring: IOT and sensors for predictive maintenance.

* Benefits:
* Enhanced safety and reliability
* Improved operational efficiency
* Better passenger experience
* Conclusion:
* IT advancements in avionics are pivotal for the growth and safety of modern aviation.