Task #8 – Extempore Activity

Topic: Extempore for IT in automobile, IT in metro rail and IT in avionics topics.

IT in Automobile:

Empathize – Imagine being stuck in traffic, unsure of the best route, or dealing with frequent vehicle breakdowns. Drivers, manufacturers, and even passengers face challenges related to safety, efficiency, and maintenance.
Define – The core problems include inefficient navigation, lack of predictive maintenance, and safety concerns.
Ideate – Solutions like AI-based navigation, IoT sensors for vehicle health monitoring, and automated driving assistance can improve user experience.
Prototype – Companies are implementing real-time data tracking, smart dashboards, and AI-driven diagnostics.
Test – Modern vehicles now have predictive maintenance alerts, self-parking features, and even self-driving capabilities, making travel smoother and safer.

IT in Metro Rail:

Empathize – Daily metro commuters face overcrowding, unpredictable train schedules, and ticketing issues. Authorities struggle with operational efficiency.
Define – The main challenges are congestion, inaccurate real-time updates, and inefficient fare collection.
Ideate – Solutions include smart ticketing, automated crowd management, and AI-powered train scheduling.
Prototype – Metro systems worldwide now use RFID-based ticketing, mobile apps for live updates, and AI-driven scheduling to reduce delays.
Test – Cities with smart metro networks show improved passenger convenience, lower wait times, and better overall system efficiency.

IT in Avionics:

Empathize – Pilots, air traffic controllers, and passengers all depend on precise navigation, safety, and communication. Even minor errors can lead to serious consequences.
Define – Issues like mid-air collisions, inefficient flight routes, and delays affect aviation safety and efficiency.
Ideate – Advanced flight management systems, AI-based air traffic control, and predictive aircraft maintenance can improve aviation operations.
Prototype – Modern aircraft are equipped with GPS-based navigation, real-time monitoring of engine health, and automated landing assistance.
Test – The aviation industry has significantly reduced accidents, delays, and fuel consumption through smart avionics solutions.