Lesson Plan Form

**Course Title: Digital and Satellite Communication**

**Course Code: ETE-452**

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| **Title:** Orbiting Satellites , Satellite Frequency Bands and LEO, MEO, GEO | | | **Ref. No:** ETE 452/02 | |
| **Target Population:** 25 | | | **Duration**: 90 minutes | |
| **Aims/Rationale:** In this lesson students explore the concept of orbits, focusing on altitude, velocity, and distance traveled. The lesson explores the connection of Earth-orbiting satellites to the study of the environment. Both geometric and algebraic concepts are presented to students in this application of science and mathematics to a real-world situation. | | | | |
| **Learning Outcomes**: At the end of the session participant will be able to :  1. Understand the satellites orbit and orbit mechanics.  2. Understand the orbital velocity, Height and period of satellite systems.  3. Understand the Kepler’s Three laws of planetary motion.  4. Definitions of Terms for Earth-Orbiting Satellite.  5. Understand Orbital Elements.  6. Understand the Satellite frequency bands and LEO,MEO,GEO | | | | |
| **Content** | **Method or Technique** | **Resource or Aid** | | **Time** |
| **Introduction:** Welcome address  Rapport building  Bridging topic  Layout/ content outline  Attendance  Pre-assessment | Lecture  Q/A | W/B | | 10 minutes |
| **Development:**  **Section-A**  Introduction, Orbit mechanics: Developing the equations of orbit.  Orbital velocity, Height and period of satellite systems.  **Section-B**  Kepler’s Three laws of planetary motion:  Describing the orbit of a satellite.  **Section-C**  Definitions of Terms for Earth-Orbiting Satellite.  Orbital Elements.  **Section-D**  Satellite frequency bands.  LEO,MEO,GEO | Lecture  Discussion  Do  Do  Do | W/B  MMP  Video | | 20 minutes  15 minutes  20 minutes  15 minutes |
| **Conclusion:**  Recap main points  Feedback & answer  Assessment of LOs  Reference  Forward plan | Lecture  Discussion  Q/A |  | | 10 minutes |
| **Equipment & aids:** Optional | | | | |