**Lesson Plan Form**

**Course Title:** Digital and Satellite Communication

**Course Code:** ETE-452

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| **Title:** Multiple Access | | | **Ref. No**: ETE 452/14 | |
| **Target** Population: 25 | | | **Duration:**90 minutes | |
| **Aims/Rationale:** Upon completion of the lesson students are able to understand the basic working principle of Multiple Access. Multiple access techniques are used to allow a large number of mobile users to share  the allocated spectrum in the most efficient manner. | | | | |
| **Learning Outcomes:** At the end of the session participant will be able to :   1. Understand Frequency Division Multiple Access (FDMA). 2. Understand Time Division Multiple Access (TDMA). 3. Understand Code Division Multiple Access (CDMA). | | | | |
| **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**  Frequency Division Multiple Access (FDMA).  Intermodulation.  Channel Capacity with Demand Access FDMA.  **Section-B**  Time Division Multiple Access (TDMA).  Bits, Symbols, and Channels.  TDMA Frame Structure.  **Section-C**  Code Division Multiple Access (CDMA).  Spread Spectrum Transmission and Reception.  DS-SS CDMA Capacity. | Lecture  Discussion  Do  Do | W/B  MMP  Video | | 20 minutes  25 minutes  25 minutes |
| **Conclusion:**  Recap main points  Feedback & answer  Assessment of LOs  Reference  Forward plan | Lecture  Discussion  Q/A |  | | 10 minutes |
| **Equipment & aids:** Optional | | | | |