**Lesson Plan Form**

**Course Title:** Digital and Satellite Communication

**Course Code:** ETE-452

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| **Title:** Design of Downlinks | | | **Ref. No**: ETE 452/07 | |
| **Target** Population: 25 | | | **Duration:**90 minutes | |
| **Aims/Rationale:** To teach the students about the satellite link design that how to design of Downlink with example and also teach the different parameters which are included to design a satellite. | | | | |
| **Learning Outcomes:** At the end of the session participant will be able to :   1. Understand the basic concepts for design of Downlinks. . 2. Understand the Link Budgets 3. Link Budget Example: C-Band Downlink for Earth Coverage Beam . 4. Calculations of Downlinks. | | | | |
| **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 the basic objectives of Downlinks and Uplinks Design.  Design of Downlinks  **Section-B**  Link Budgets  C-Band GEO satellite Link Budget in Clear Air  C-Band Downlink Budget in Rain  **Section-C**  Link Budget Example : C-Band Downlink for Earth Coverage Beam  Satellite Systems using small earth Satiations | 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 | | | | |