**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.
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| **Content** | **Method or Technique** | **Resource or Aid** | **Time** |
| **Introduction**: Welcome addressRapport buildingBridging topicLayout/ content outlineAttendancePre-assessment | LectureQ/A | W/B | 10 minutes |
| **Development:****Section-A**Introduction the basic objectives of Downlinks and Uplinks Design.Design of Downlinks**Section-B**Link BudgetsC-Band GEO satellite Link Budget in Clear AirC-Band Downlink Budget in Rain  **Section-C**Link Budget Example : C-Band Downlink for Earth Coverage BeamSatellite Systems using small earth Satiations  | LectureDiscussionDoDo | W/BMMPVideo | 20 minutes25 minutes25 minutes |
| **Conclusion:**Recap main pointsFeedback & answerAssessment of LOsReferenceForward plan | LectureDiscussionQ/A |  | 10 minutes |
| Equipment & aids: Optional |