**Lesson Plan Form**

**Course Title: Digital and Satellite Communication**

**Course Code: ETE-452**

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| **Title:** Propagation Effects and Their Impact on Satellite –Earth Links |  **Ref. No:** ETE 452/17 |
| **Target Population:** 25 | **Duration :** 90 minutes |
| **Aims/Rationale:** After completing this lessons students are able to understand the different kind of propagation effects and their impact on Satellite Earth Links.  |
| **Learning Outcomes:** At the end of the session participant will be able to :1. Understand Rain and Ice Effects.
2. Learn how to predict of Rain Attenuation.
3. Propagation Impairment Countermeasures.
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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**Rain and Ice effects.Charactering rain and Rain Climate Maps.Rain drop Distributions.**Section-B**Prediction of Rain attenuation.Calculation of Long-Term statics for NGSO systems.ITU-R Long term Frequency scaling of rain attenuation.**Section-C**Propagation Impairment Countermeasures.Attenuation, Power Control, Signal Processing, Diversity, and Depolarization. | LectureDiscussionDoDo | W/BMMPVideo | 20 minutes25 minutes25 minutes |
| **Conclusion:**Recap main pointsFeedback & answerAssessment of LOsReferenceForward plan | LectureDiscussionQ/A |  | 10 minutes |
| E**quipment & aids:** Optional |