**Lesson Plan Form**

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| Title: **Inversion of the z-Transform.** | | | Ref. No: **ETE 321/10** | |
| Target Population: **25** | | | Duration: **90 minutes** | |
| Aims/Rationale: **To teach the students about inversion of the z-transform and to illustrate its use in the characteristics of discrete-time signals.** | | | | |
| **Learning Outcomes: At the end of the session participant will be able to :**   1. **Understanding the inverse transform for discrete-time signals.** 2. **Understand the properties of the inversion of the z-Transform.** 3. **Ability to compute transform and inverse transform** 4. **Ability** **to apply transform for analyzing linear time invariant (LTI) systems.** | | | | |
| **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:  **Briefly Discussion of Inversion of the z-transform.**  **The Inverse z-Transform by Contour Integration.**  Section-B  **The Inverse z-Transform by Power Series Expansion.**  **The Inverse z-Transform by Partial-Fraction Expansion.**  Section-C  **Decomposition of rational Z-transform.** | **Lecture**  **Discussion**  **Do**  **Do** | **W/B**  **MMP**  **Video** | | **10 minutes**  **30 minutes**  **30 minutes** |
| Conclusion:  **Recap main points**  **Feedback & answer**  **Assessment of LOs**  **Reference**  **Forward plan** | **Lecture**  **Discussion**  **Q/A** |  | | **10 minutes** |
| Equipment & aids: **Optional** | | | | |