**Lesson Plan Form**

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| Title: **Rational z-transform** | | | Ref. No: **ETE 321/09** | |
| Target Population: **25** | | | Duration: **90 minutes** | |
| Aims/Rationale: **To teach the students about digital the rational 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 about rational z-transform of discrete-time signals.** 2. **Understand the poles and Zeros function and can draw the poles and zeros of the signal.** 3. **Understand the properties of the z-transform.** 4. **Response of Systems with Rational System Functions.** | | | | |
| **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 Rational z-Transform.**  **Definition of Poles and Zeros.**  Section-B  **Pole Location and Time-Domain Behavior for Causal Signals.**  **Pole-Zero Plot and the ROC.**  **Poles and Zeros of the Rational z-Transform**  Section-C  **The System Function of a Linear Time-Invariant System.**  **The System Function of LCCDEs.** | **Lecture**  **Discussion**  **Do**  **Do** | **W/B**  **MMP**  **Video** | | **15 minutes**  **25 minutes**  **30 minutes** |
| Conclusion:  **Recap main points**  **Feedback & answer**  **Assessment of LOs**  **Reference**  **Forward plan** | **Lecture**  **Discussion**  **Q/A** |  | | **10 minutes** |
| Equipment & aids: **Optional** | | | | |