**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.**
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| **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** |