**Lesson Plan Form**

**Course Title**: Digital Signal Processing

**Course code:** ETE321

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| Title: **Convolutions of Discrete Time Signal** | | | Ref. No:  **ETE 321/07** | |
| Target Population: **25** | | | Duration:  **90 minutes** | |
| Aims/Rationale:  **1. To study convolution of discrete-time signals.**  **2. To learn how to implement the operation using MATLAB.** | | | | |
| Learning Outcomes: **At the end of the session participant will be able to :**   1. **Understand the Definition and basic functions of convolution of Discreet Time signal.** 2. **Response of LTI Systems to Arbitrary Inputs: The Convolution Sum.** 3. **Draw the Graphical computation of convolution.** 4. **Understand the Properties of Convolution Systems.** 5. **Uses of convolution system.** | | | | |
| **Content** | Method or Technique | Resource or Aid | | Time |
| **Introduction:**  **Rapport**  **Link**  **Importance/rationale**  **Pre-assessment**  **Layout/ content outline** | **Lecture**  **Q/A** | **W/B** | | **10 minutes** |
| Development:  Section-A  **Definition of convolution of discrete time signal.**  **Equation of convolution function and explanation.**  Section-B  **Properties of convolution of discrete time signal.**  Section-C  **Mathematical proved of the Properties of convolution**  **Graphically representation by using MATLAB.**  Section-D  **Computation of Correlation Sequences.** | **Lecture**  **Discussion**  **Do**  **Do**    **Do** | **W/B**  **MMP**  **Video**  **W/B**  **MMP**  **Video** | | **15 minutes**    **25 minutes**  **25 minutes**    **15 minutes** |
| Conclusion:  **Recap main points**  **Feedback & answer**  **Assessment of LOs**  **Reference**  **Forward plan** | **Lecture**  **Discussion**  **Q/A** |  | | **10 minutes** |
| Equipment & aids:    **Optional** | | | | |