

COURSE CODE: 1151EE307	COURSE TITLE: DISCRETE TIME SIGNAL PROCESSING LAB	L	T	P	C
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COURSE CATEGORY:					
Program Core					
PREAMBLE :					
To carry out software and hardware experiments illustrating the basic principles and techniques of digital signal processing and to learn the programming of real-time signal processing algorithms on a concrete DSP chip.					
PREREQUISITE COURSES:					
None					
RELATED COURSES:					
DSP Algorithms and Architectures					
COURSE EDUCATIONAL OBJECTIVES :					
The student will able to:					
<ul style="list-style-type: none"> • Study the architecture of DSP processor • Learn the implementation aspects of FFT • Study the Linear and Circular Convolution • Understand the design concepts of FIR and IIR filters 					
COURSE OUTCOMES :					
Upon the successful completion of the course, students will be able to:					
CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)			
CO1	Demonstrate their abilities towards DSP processor based implementation of DSP systems	S3			
CO2	Implement Linear and Circular Convolution	S3			
CO3	Demonstrate the applications of Fast Fourier Transform in DSP	S3			
CO4	Design IIR and FIR filters	S3			
CO5	Apply sampling and aliasing on the given signal	S3			
COURSE CONTENT:					
LIST OF EXPERIMENTS					
MATLAB / Equivalent Software Package					
<ol style="list-style-type: none"> 1. Generation of different types of signals 2. Implementation of Linear and Circular Convolutions 					

3. Implementation of Fast Fourier Transform

4. Design FIR filter

5. Design IIR filter

6. Sampling & Aliasing

DSP Processor Based Implementation

7. Study the architecture and addressing modes of Digital Signal Processor

8. Implementation of Linear Convolution

9. Implementation of Circular Convolution

10. FIR Filter Implementation

11. IIR Filter Implementation

12. Sampling of Input Signals