PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems

Module PMRF-ISSS006

Digital Signal Processing

Name of the PMRF student

Manu Ghulyani,
Ph.D Candidate at IISc, Bengaluru

Required background of the students taught

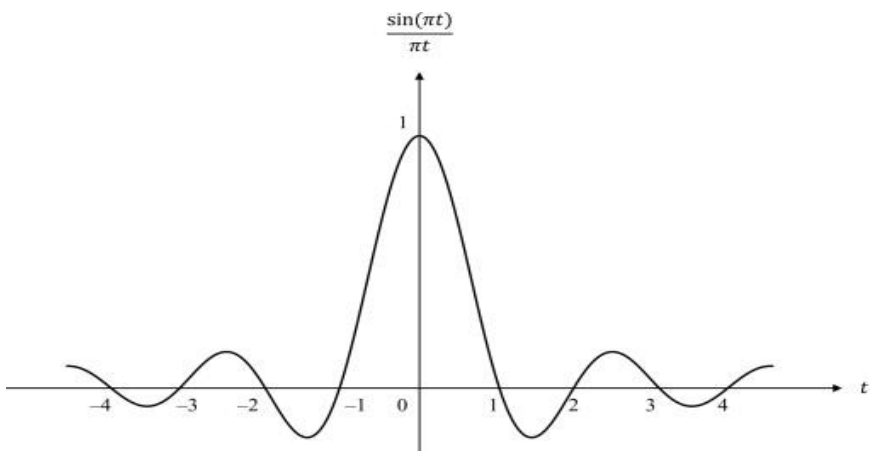
Basic Calculus

Faculty coordinator

Dr. Lakshmi S,
Associate Professor,
Department of Electronics & Communication,
Ramaiah Institute of Technology,
Bengaluru

Online session coordinator

Darkasha Khan,
B.E in Electronics and Communication



Details of the content of the module

Signals are everywhere around us, and these include the images and videos we see on the internet to the electrical signals captured by the ECG machines. The advent of digital computers has given tremendous freedom for manipulating or "processing " these signals for various applications. In this course, we will learn the manipulation of signals on a computer. Week wise details are:

Week 1: Basics of linear algebra, mathematical analysis, complex exponential
Week 2: Continuous time signal processing
Week 3: Discrete time signal processing
Week 4-5: Shannon's sampling theorem
Week 6: Filter design
Week 7: Python/Octave tutorial and project finalization
Week 8: Principal component analysis
Week 9: Applications and advanced topics
Week 10: Project discussion

Schedule of the module

Timings:
Thursday and Saturday 5:30-6:30 PM

Course Duration: 10 Weeks

Course start date: June 17, 2021

Meeting Link: shorturl.at/clAB5 on MS Teams On June 17 at 5:30 PM

Contact email ID: isss.forum@gmail.com

Registration link:
https://forms.gle/s9LRJBM5gyBPS1HHA