PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS107/III/2024

Design of Controller for Advanced Power Converter Application

Name of the PMRF student

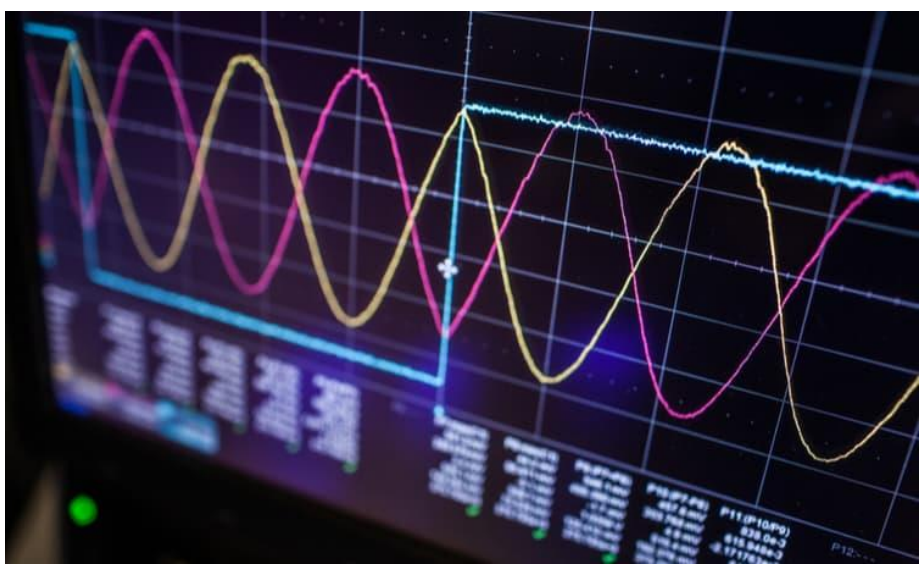
SURJAKANTA MAZUMDER

Required background of the students taught

B.Tech/ M.Tech in Electrical Engineering. Basic understanding of Basic idea about Semiconductor Physics, Circuit Theory, and Power Electronicsis necessary.

Online session coordinator

Will be chosen from the list of registrants



Details of the content of the module

This course is dedicated for Electrical Engineers who has keen interest in Power Electronic Converter Control.

Week 1-2: Modulation of Advanced Power Converters

a. ISOP Isolated DC-DC Converter (PSFB/DAB)
b. Three-Phase Inverter

Week 3-5: Dynamic Modeling and Control of ISOP DC-DC Converters

a. Dynamic Modeling of ISOP PSFB
b. Dynamic Modeling of ISOP DAB

Week 5-6: Introduction to PLL

a. Significance of PLL
b. SOGI-QSG based PLL Generation

Week 7-8: DQ Control Theory of Three-Phase Inverter

Week 9-10: Grid Following Inverter Control

Schedule of the module

Start Date: 24th August 2024

End Date: 27th October 2024 (Tentative)

Weekly, Saturday and Sunday: 10 AM to 11.15 AM

(Lecture:10AM to 11AM Doubt Solving:11AM to 11.15AM)

Meeting link : Will be shared later

Contact email ID: isss.forum@gmail.com

Registration link: https://forms.gle/k31fX4oEnHvu8kFF8