PMRF-ISSS Teaching Programme

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



Module PMRF-ISSS029/II/2024 State-of-the-art Power Converter Design (Part-I)

Name of the PMRF student

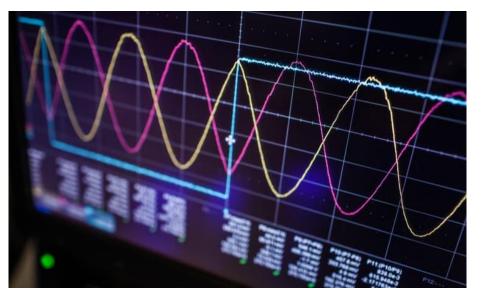
SURJAKANTA MAZUMDER

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 1-5: Semi-conductor Devices

- a. IGBT
- b. Si MOSFETs
- c. SiC Devices
- d. GaN Devices

Week 6-7: Concept of Switching

- a. Hard-switching
- b. Soft-switching
- c. Dead-time Selection

Week 7-8: Loss Estimation

- a. Switching Loss
- b. Conduction Loss

Week 9-10: Device Selection Methodology

Schedule of the module

Start Date: 9th March 2024

End Date: 12th May 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/oYM266XN5onC5M137