

PMRF-ISSS Teaching Programme

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



Module PMRF- Switched mode power converters

Name of the PMRF student

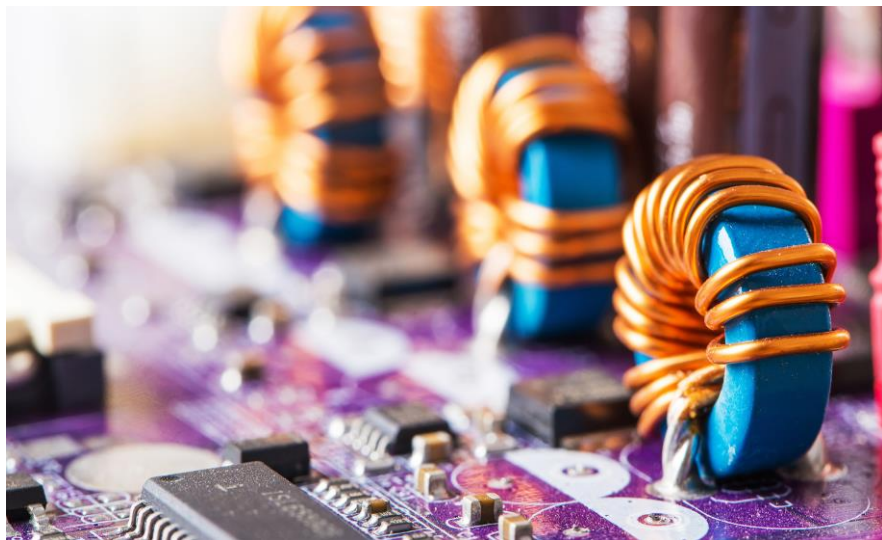
PROSEN DEY

Required background of the students taught

B.Tech/ M.Tech in Electrical Engineering.
Basic understanding of Control Systems,
Network theory is necessary.

Online session coordinator

Will be chosen from the list of registrants



Schedule of the module

Start Date: 23rd September 2023

End Date: 23rd December 2023 (Tentative)

Classes on: Saturday 9 AM to 11 AM

Details of the content of the module

This is an introductory Power Electronics course designed for B.Tech/ M.Tech students of Electrical Engineering background.

Week 1-2: Buck converter- Basic principle and working

Week 3: Buck converter- State space analysis and circuit averaging.

Week 4: Small signal transfer function derivation of Buck converter and controller design.

Week 5: Boost converter- Basic principle and working.

Week 6: Boost converter- State space analysis and circuit averaging.

Week 7: Small signal transfer function derivation of Boost converter and controller design.

Week 8: Boost PFC, Dual Boost PFC, BTPFC.

Week 9: Buck-Boost converter- Basic principle and working.

Week 10: Isolated converters: Forward converter

Week 11: Push-pull and Flyback Converter

Week 12: Half bridge and Full bridge converter

Meeting link : Will be shared later

Contact email ID: issf.forum@gmail.com

Registration link:

<https://docs.google.com/forms/d/e/1FAIpQLSfZfhUg62BOBy7b25z97eRC9-RBfc81pSX5jgYoZ8ZVk0hO0w/viewform?vc=0&c=0&w=1&flr=0>