PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS0048/2022

Basics of Semiconductor device and technology

Name of the PMRF student

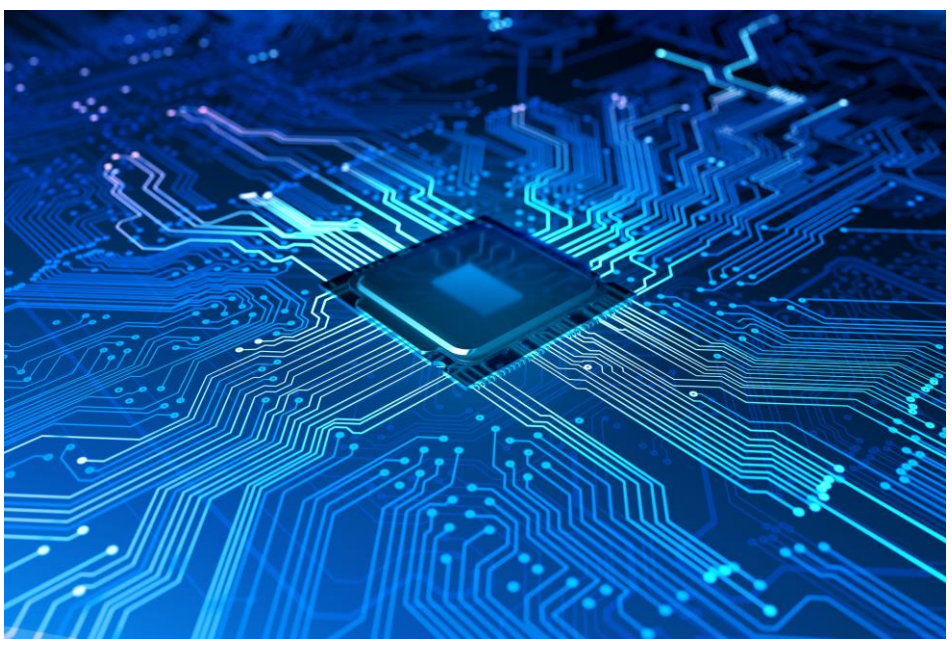
Mehak Ashraf Mir

Required background of the students taught

Undergraduate course: EE, ECE, Materials science Engg., Physics and other related departments

Online session coordinator

Will be chosen from the list of registrants



Schedule of the module

Start Date: 14 Jan 2023

Tentative End Date: 29 April 2023
(may get extended by a week or 2)

Day: Live Lectures will be held every Saturday.

Time: 6 PM – 7 PM IST

Details of the content of the module

Week 1: Introduction of semiconductors, Principles of Quantum Mechanics

Week 2 : : Schrodinger's wave equation,

Week 3: Semiconductor in Equilibrium

Week 4: Carrier Transport Phenomena

Week 5 & 6: Non-equilibrium Excess Carriers in Semiconductors

Week 7: PN Junction Electrostatics

Week 8 & 9: PN Junction Diode

Week 10 : Metal-Semiconductor Junction, Schottky Diodes and Semiconductor Heterojunction.

Week 11 and 12: MOS capacitor and its characterization
Week 13: MOSFET Fundamentals

Week 14: Basics of Device Fabrication: brief overview of process flow.

Meeting link

https://meet.google.com/ixn-mkuq-ekv

Link

Contact email ID: isss.forum@gmail.com

Registration link:
https://docs.google.com/forms/d/e/1FAIpQLSfDwMMsw2oSG2KNYnKmuAmZbLcuY16gr04Jh4VgBoi56ClaKA/viewform?usp=sf_link