



PMRF-ISSS047/2022.

Physical Electronics

Name of the PMRF student

Mohammad Ateeb Munshi

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



Details of the content of the module

Week 1: semiconductors, Principles of Quantum Mechanics

Week 2 : : Schrodinger's wave equation, Uncertainty principle.

Week 3: Semiconductor in Equilibrium, Fermi statistics.

Week 4: Density of states, carrier concentration

Week 5: Carrier Transport Phenomena

Week 6&7: Non-equilibrium Excess Carriers in Semiconductors

Week 8: 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 basics.

Schedule of the module

Start Date: 15 May 2023

Tentative End Date: 31st July 2023

Day: Lectures will be uploaded every Saturday.

Time: 6 PM – 7 PM IST

Meeting link

Link

Contact email ID: issf.forum@gmail.com

Registration link:

https://docs.google.com/forms/d/e/1FAIpQLSdYoQkSNrEq8NjWIZASreYBGtketOX1khCEVfxMgE0NwawM1w/viewform?usp=sf_link