



## Module PMRF-ISSS0048/2022 Condensed Matter Physics

### Name of the PMRF student

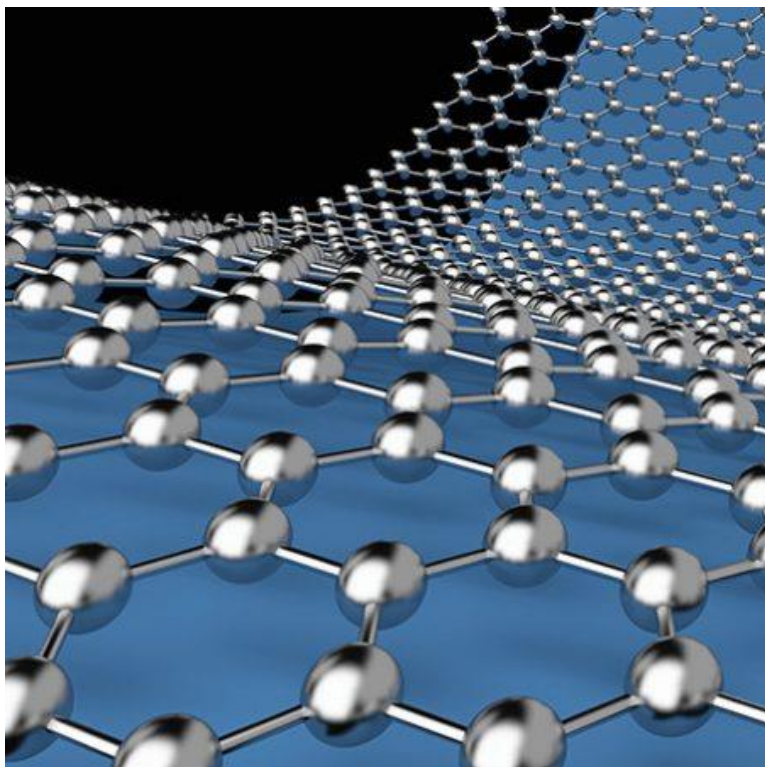
Mehak Ashraf Mir

### 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



### Details of the content of the module

- **Introduction to Quantum Mechanics:** Drude Model, Blackbody Radiation, Photoelectric and Compton Effect, Bohr's model of an atom, Wave-Particle duality, Schrodinger Equation, Uncertainty principle- Particle in a finite and infinite potential well.
- **Solids:** Crystal lattice, reciprocal lattice, Crystal structures, X-ray diffraction, Band structure, Density of states and dispersion relation. Lattice dynamics, Quantum mechanics, thermal properties, electrons in metals, semiconductors, and insulator
- **Electrons:** free electrons, electrons in periodic potential, formation of bands.

### Schedule of the module

Lectures will be uploaded on **Saturday**  
8pm

Lectures will start from **15 May 2023**  
**(Tentative)**

Course will end on **31 July 2023.**

### Contact email ID:

[iss.forum@gmail.com](mailto:iss.forum@gmail.com)

### Registration link:

[https://docs.google.com/forms/d/e/1FAIpQLSdv1\\_3vs2SSNI8zWwcNlvguyG5\\_XX54GvqRRim5OGTenoDnZw/viewform](https://docs.google.com/forms/d/e/1FAIpQLSdv1_3vs2SSNI8zWwcNlvguyG5_XX54GvqRRim5OGTenoDnZw/viewform)