PMRF-ISSS Teaching Programme Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems

# Module PMRF-ISSS068/2023 Advanced Statistical Mechanics-I

#### Name of the PMRF student

### ARNAB DAS

#### Required background of the students taught

Basic knowledge of statistical mechanics, quantum mechanics and condensed matter physics

Online Session Coordinator

STATISTICAL ENSEMBLES

Canonical

(const. NVT)

**Grand Canonical** 

(const. µVT)

Will be chosen from the list of registrants

## Details of the content of the module

This will be a lecture series on advanced statistical mechanics aiming to build a good understanding of the origin of ensemble theory and its interesting physics which leads the way for quantum statistics. The broad topics that will be coved are:

- 1. Review of Basics of Statistical Mechanics
- 2. The Ensemble Theory and Micro Canonical Ensemble
- 3. Canonical Ensemble
- 4. Grand Canonical ensemble
- 5. Introduction to Quantum Statistics

#### Schedule of the module

Microcanonical (const. NVE) nsulation

Start Date: 06.12.2023

End Date: 31.03.2024 (Tentative)

Timings: Wednesday: 7.00pm-8.30pm

Sunday: 11.00am-12.30pm

#### Meeting link : Will be shared later

Link

Contact email ID: <a href="mailto:isss.forum@gmail.com">isss.forum@gmail.com</a>

**Registration link:** 

https://forms.gle/QZLynidtshAAYbuR6

