PMRF-ISSS Teaching Programme

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



# Module PMRF-ISSS087/III/2024 **Optimal Design of Queueing Systems**

#### Name of the PMRF student

#### Details of the content of the module

# Aniket Mukherjee

### **Required background of the students taught**

Electronics and communication engineering and any field involving queueing theory.



# 1. Introduction to design models

- **Optimal service rates**
- **Optimal arrival rates**
- 2. Optimal arrival rates on single class queue
  - Generalization (GI/GI/1) queue
  - Stability, power criterion
- 3. Dynamic adaptive algorithms
  - Discrete time (Model, variants)
  - Continuous time (Algorithms, variants)
- 4. Optimal arrival rates multiclass queue
  - Multiclass (Model, optimal solutions, algorithms)

Schedule of the module

## June 11 to June 28,

Tuesday to Friday

## (10:00 PM – 11:59 PM)

Meeting link : Will be shared later

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

Registration link: Optimal design of queueing systems

https://forms.gle/ofCo3k14AUxktCeZA