

## PMRF-ISSS Teaching Programme

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



Module PMRF-ISSS160/IV/2024

# Stochastic Control and Communications

Name of the PMRF student

### Aniket Mukherjee

Required background of the students taught

Basic course on probability, Students of control, communication and automation across any discipline

### Inventory Control

Random demand in epoch (w)!!

Backlog-inventory carryforward (x) New order placed (u)??

Decision epoch

Time Horizon

Details of the content of the module

- **Expected Utility Functions**
- MDP
- LQR & LQG problem
- Kalman filter
- Witsenhausen counterexample
- Communication & decentralized control
- Source & channel coding
- Rate distortion theory

#### Schedule of the module

Start date: 14th October 2024

Class time: (Tues, Wed, Thurs, Fri) 4.00-5:30pm

Last date: 29th November 2024 (Tentative)

Number of hours: 30

Meeting link: Will be shared later

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

Registration link: Click here