

PMRF-ISSS Teaching Programme

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



Module PMRF-ISSS080/III/2025

Seismic design of buildings with its performance assessment
with SAP2000 and OpenSees software

Name of the PMRF student
Sukanya Karmakar

Details of the content of the module

Required background of the students taught

Civil Engineering

Module 1: Fundamentals of earthquake engineering: understanding strength, ductility and capacity design, response and design spectra, code-based design approach

Module 2: Designing in SAP2000 software

Module 3: Performance assessment using OpenSees

This course introduces the fundamentals of earthquake engineering and seismic design philosophy. Participants will learn to model and design structures in **SAP2000** following code-based procedures. The course then transitions to **OpenSees** for advanced nonlinear analysis and performance assessment. An example ties the workflow together, bridging design and performance-based evaluation.



Schedule of the module

Start Date: 23rdth August 2025

End Date: 26th August 2025 (Tentative)

Schedule: Recorded videos uploaded daily at 10 pm.

Number of lectures:4

Duration: Total ~10 hours

Meeting link : Will be shared later

[Link](#)

Contact email ID: sukanyak21@iitk.ac.in

Registration link:

<https://forms.gle/RMwVeRPCgsuQ>