PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS0104/2024

Introduction to Coding Theory

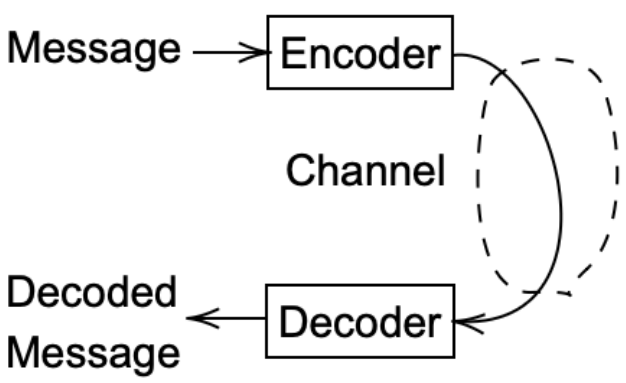
Name of the PMRF student

Aswanth T

Required background of the students taught

Students from the background of Electrical/Computer Science Engineering or Mathematics will find the course useful.

Familiarity with linear algebra will be useful.



Details of the content of the module

This is an introductory level course on coding theory. Course consists of video lectures and problem-solving sessions.

Brief syllabus: mathematical preliminaries, introduction and motivation, channel models, block codes and different decoding approaches, linear codes, dual code, minimum distance decoding, standard array, hamming bound and perfect codes, sphere packing bound, Singleton bound and MDS codes, Gilbert-Varshamov bound, Plotkin bound, GRS codes, and decoding of GRS codes

Schedule of the module

Start date: 7th August 2024
End date: 27th September 2024
1.5 -hour long Lecture videos will be released on Wednesday and Friday of every week. 2-3 Problem solving sessions will be scheduled.

Meeting link : Will be shared later

Contact email ID: isss.forum@gmail.com

Registration link:

https://forms.gle/mnfeT56YhrgCDUrQ7