



Module PMRF- PMRF-ISSS161/II/2024.

Randomized Algorithms

Name of the PMRF student

Rameesh Paul

Required background of the students taught

Knowledge of High School Maths and Undergraduate level Probability

Online session coordinator

Will be chosen from the list of registrants

Details of the content of the module

The course will cover problems and techniques to design algorithms using randomness. The problems will be drawn from diverse set of areas such as Machine Learning, Streaming Algorithms and Graph Theory.

Below is a tentative schedule (subject to change as per the interest of participants).

Lec 1: Introduction, Karger's Min Cut Algorithm

Lec 2: Concentration Inequalities with Applications

Lec 3-4: Streaming Algorithms

Lec 5-6: Dimension Reduction Techniques

Lec 7: PAC Learning

Lec 8: Introduction to Markov Chains

Lec 9: Coupling of Markov Chains

Lec 10-11: Random Walks and Spectral Analysis

Lec 12: Martingales and Applications

Schedule of the module

Course starts on: 11th October, 2024

Course ends on: 27th December, 2024

Classes on : Friday (may be changed if required)

Timings: 16:00 – 17:30 hrs

Class duration is 75 mins and last 15 mins (or more if required) will be devoted purely for discussion.

Meeting link : <https://shorturl.at/jaYGX>

Contact email ID: issforum@gmail.com

Registration link:

[Click here to view registration form](#)

