Random Variable & Random Processes

Date: June 19th, 2022

Speaker: Dr. Arvind Kumar (Asst. Professor, ECE Dept. BIT Sindri)

On the 19th of June 2022, at 3 PM, a webinar was conducted at Electronics and Communication Engineering Department, BIT Sindri on the topic of "Random Variables and Random Processes." The webinar featured Dr. Arvind Kumar, an Assistant Professor in the Department of Electronics and Communication Engineering (ECE). The purpose of the webinar was to provide students with a comprehensive understanding of the fundamental concepts of random variables and random processes, both crucial topics in the field of probability theory and signal processing.

The webinar began out with a thorough introduction of random variables' fundamental ideas and their use in simulating uncertainty and variability in engineering systems. In his discussion on probability distribution functions, Dr. Arvind Kumar went in-depth on how they express the likelihood of different outcomes for a random variable. He used real-world examples to make the distinction between discrete and continuous random variables easier for pupils to understand.

The webinar's discussion eventually turned to random processes. Dr. Kumar clarified the idea of time-varying random events and highlighted the significance of stochastic processes in several applications, including financial systems, weather forecasting, and communication networks. We spoke about the ideas of autocorrelation and power spectral density as well as how to use them to characterize the behavior of signals in various engineering contexts and analyze random processes.

Dr. Arvind Kumar encouraged active engagement from the audience throughout the session and demonstrated his knowledge and enthusiasm for the topic. The students were able to understand the subtleties of random variables and random processes because of his engaging teaching approach, which made the challenging topic understandable. Students have a great chance to use the webinar to improve their comprehension of fundamental ideas in signal processing and probability theory.

The substantial student participation served as a gauge for the webinar's effectiveness. The webinar was attended by an astonishing 70% of the entire class enrolment, demonstrating the students' high interest in the subject and their desire to learn from a knowledgeable teacher like Dr. Arvind Kumar.