Report on DSP Connaissance'16

Date:

Venue: CR-4,2nd Floor, A-wing

Time: 8:30am-10:30am

Professor In charge: Mrs. Sejal Chopra

The session was conducted by Prof. Kiran Talele.Ms. Radhika Rajvanshi welcomed him and introduced professor to the students He is an associate professor in Electronics Engineering Department at SPIT, also the head of academics, government funded Sardar Patel Technology business and incharge of innovation and entrepreneurship development center. His major area of research includes DSP, IP, Computer Vision, machine learning and multi-media system design. The session was about the importance of DSP in Computer Engineering Stream and its Applications.

The session started with the benefits of using a DSP processor over a GPP which he supported with the performance measure. The stages in Sampling and Reconstruction of a signal was explained in detail wherein he said that is essentially array processing which makes it more relatable to Computer Students.

The next topic was Convolution wherein he explained the various methods and in detail about the tabular method and its preference with respect to Mumbai University standards. He then proceeded to explain about Real-time processors in which he said the definition depends upon the application in this the systems output should be calculated before the next input arrives. He further explained the various transforms that are used to convert time domain signals into frequency domain signals to understand the frequency components of any real time signals.

Sir then went into detail about the various transforms namely Discrete Fourier Transform (DFT) and Fast Fourier Transform(FFT). DFT is more efficient when the number of samples are less but when the sample size increases the speed reduces to a great extend which is why the FFT is more preferable however he said that both the transforms produce the same results. FFT gives the results in Circular Convolution but we require the results in Linear Convolution we use LC using CC. In FFT calculation can be done in parallel.

The session concluded with sir talking about the applications of DSP like Digital phone system etc. and showing the class a few videos on the projects that were implemented by the students.

Mrs. Sejal Chopra gave the vote of thanks and gave him a token of appreciation.