**DSE: Communication System (32227613)**

**Credit: 06 (Theory-04, Practical-02)**

**Theory: 60 Hours**

**Practical: 60 Hours**

**Course Objective**

This paper aims to describe the concepts of electronics in communication and communication techniques based on Analog Modulation, Analog and digital Pulse

Modulation. Communication and Navigation systems such as GPS and mobile telephony system are also introduced. This paper will essentially connect the text book knowledge with the most popular communication technology in real world.

**Course Learning Outcomes**

At the end of this course, students will be able to

 Understand of fundamentals of electronic communication system and electromagnetic communication spectrum with an idea of frequency allocation for radio communication system in India.

 Gain an insight on the use of different modulation and demodulation techniques used in analog communication

 Learn the generation and detection of a signal through pulse and digital modulation

techniques and multiplexing.

 Gain an in-depth understanding of different concepts used in a satellite communication system.

 Study the concept of Mobile radio propagation, cellular system design and understand mobile technologies like GSM and CDMA.

 Understand evolution of mobile communication generations 2G, 3G, and 4G with their characteristics and limitations.

 In the laboratory course, students will apply the theoretical concepts to gain hands on experience in building modulation and demodulation circuits; Transmitters and Receivers for AM and FM. Also, to construct TDM, PAM, PWM, PPM and ASK, PSK

and FSK modulator and verify their results.