

**RCETEEAC01– WIRELESS TECHNOLOGY****Course outcomes:**

The students will be able to:

- keep himself updated on latest wireless technologies and trends in the communication field
- understand the transmission of voice and data through various networks.
- design solutions for cellular communication and compute the capacity of wireless channels
- analyze the performance of the digital modulation techniques in fading channels.
- design multicarrier systems in wireless communication.

Syllabus:

UNIT I Overview of wireless systems – Physical modeling for wireless channels – Time and Frequency coherence – Statistical channel models – Capacity of wireless Channel- Capacity of Flat Fading Channel – Channel Side Information at Receiver – Channel Side Information at Transmitter and Receiver –Capacity comparisons – Capacity of Frequency Selective Fading channels.

UNIT II

Performance of flat fading and frequency selective fading – Impact on digital modulation techniques — Outage Probability– Average Probability of Error — Combined Outage and Average Error Probability – Doppler Spread – Inter symbol Interference.

UNIT III Data Transmission using Multiple Carriers – Multicarrier Modulation with Overlapping Sub channels – Mitigation of Subcarrier Fading – Discrete Implementation of Multicarrier Modulation – Peak to average Power Ratio- Frequency and Timing offset.