

SEMESTER <i>Fifth</i>	DEPARTMENT <i>Telecommunications Engineering</i>	COURSE TITLE <i>Analog Communications</i>
COURSE CODE <i>ET505</i>	HOURS 3 UNITS 3	COURSE SPECIFICATIONS <i>Theoretical Content</i>
1. Communication Systems and Noise Parameters: <ul style="list-style-type: none"> ➤ Introduction to a communication system and its components. ➤ The concept of noise. ➤ Types of noise: internal and external noise. ➤ Concept of Noise Figure (NF) and signal to noise ratio (SNR). ➤ Noise parameters in communication systems. 		
2. AM and FM Parameters: <ul style="list-style-type: none"> ➤ Introduction to modulation. ➤ AM modulation. ➤ Process of AM signal generation. ➤ Square law modulation. ➤ Switching modulation. ➤ Generation of DSBSC and SSBSC. ➤ Calculation of modulation index. ➤ Relationship between bandwidth and Modulation index. ➤ Principles of demodulation. 		
3. FM and PM: <ul style="list-style-type: none"> ➤ FM modulation. ➤ FM signal generation. ➤ FM demodulation. ➤ Process of phase modulation and demodulation. ➤ Difference between FM and PM. 		
4. Frequency Division Multiplexing (FDM): <ul style="list-style-type: none"> ➤ Introduction to Multiplexing. ➤ The necessity of Multiplexing. 		

- Multiplexing and Modulation.
- Principles of FDM and its applications in analog systems.
- Recovering multiplexed signals (Demultiplexing).

5. FM Receiver and Digital Radio Systems:

- The principle of operation of the super heterodyne receiver.
- Definition of: Selectivity, Image frequency, Sensitivity, AGC and AFC.
- Super heterodyne Receiver Circuits.
- FM receiver circuits.
- Digital Radio Systems.

References:

1. George Kennedy, Bernard Davis, *Electronic Communication Systems*, McGraw hill.
2. Paul H. Young, *Electronic Communications Techniques*, Prentice Hall.