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| SEMESTER <i>Fifth</i> | DEPARTMENT <i>Telecommunications Engineering</i> | COURSE TITLE <i>Analog Communications Lab.</i> |
| COURSE CODE <i>ET506</i> | HOURS 3 UNITS 1 | COURSE SPECIFICATIONS <i>Practical Content</i> |
| 1. Introduction to Communication Systems and Measuring Noise Parameters: <ul style="list-style-type: none"> ➤ Using a simple transmitter and receiver. ➤ Measuring noise figure parameters using a noise figure meter. | | |
| 2. Measurement of AM and FM Parameters: <ul style="list-style-type: none"> ➤ Generating an AM signal; modulation index measurement; carrier signal amplitude measurement; base band signal amplitude measurements. ➤ Using AM Demodulator to reconstruct information signal. ➤ The use of DSBSC generator – SSB generator. | | |
| 3. FM and PM: <ul style="list-style-type: none"> ➤ FM Signal generation and using spectrum analyzer to observe the frequency spectrum. ➤ Demonstration of different types of FM demodulator to reconstruct the information signal from a FM signal; using old methods (filtering) and modern methods (PLL) of FM demodulation. | | |
| 4. Frequency Division Multiplexing (FDM): <ul style="list-style-type: none"> ➤ Basic FDM transmitter of two analog signals. ➤ Recovering of two multiplexed signals. | | |
| 5. Super heterodyne receiver, FM receiver and digital radio systems: <ul style="list-style-type: none"> ➤ Detecting the AM signal in super heterodyne receiver circuits (RF, IF, and AF stages). ➤ Detecting the FM signal in FM receiver circuits (RF, IF, and AF stages). ➤ Demonstration of the stages of the circuit of digital radio system. | | |
| References: <ol style="list-style-type: none"> 1. George Kennedy and Bernard Davis, <i>Electronic Communication Systems</i>, McGraw hill. 2. Paul H. Young, <i>Electronic Communications Techniques</i>, Prentice Hall. | | |