

L	T	P	C
3	2	0	5

3 2 0 5

- | | |
|---|-------------------|
| <ul style="list-style-type: none"> • WAVEFORM SPECTRA
Various waveforms, Fourier series for periodic waveform, Fourier coefficients, Spectrum for the trigonometric Fourier series, Exponential Fourier series, Energy Signals and Fourier transform, FFT, Inverse FFT, Power Signal, Band-width. | (06 Hours) |
| <ul style="list-style-type: none"> • NOISE
Thermal noise, Shot noise, Partition noise, Flicker noise, Burst noise, Avalanche noise, Transistor noise, Signal to noise ratio, Noise factor, Noise temperature. | (04 Hours) |
| <ul style="list-style-type: none"> • MODULATION
Review of amplitude modulation, Introduction to frequency modulation, Sinusoidal FM, Non-sinusoidal modulation, Deviation ratio, Modulation index for sinusoidal FM, Phase modulation, Equivalence between PM and FM, Digital phase modulation, Angle modulation circuits, Pulse amplitude modulation, Pulse code modulation, Pulse frequency modulation, Pulse time modulation, Pulse position modulation, Pulse width modulation. | (10 Hours) |
| <ul style="list-style-type: none"> • DIGITAL COMMUNICATION
Synchronisation, Asynchronous transmission, Bit error in baseband transmission, Matched filter, Bit-timing recovery, Digital carrier systems. | (10 Hours) |
| <ul style="list-style-type: none"> • LIGHT TRANSMISSION IN OPTICAL FIBER
Principle of light transmission in optical fiber, Numerical aperture, Losses in optical fiber, Dispersion, Types of optical fiber, fiber modes, attenuation, Signal distortion. | (06 Hours) |
| <ul style="list-style-type: none"> • OPTICAL COMMUNICATION SYSTEMS
Optical sources, Optical Power launching and coupling, Fiber splicing, Connectors, Optical amplifiers, Optical detectors. | (06 Hours) |

(Total Contact Time (Theory) : 42 Hours)

BOOKS RECOMMENDED :

- | | | | | |
|----|---|--|-------------------|------|
| 1. | <u>Lathi B. P.</u> | <u>Communication systems</u> | Wiley Eastern Ltd | 1992 |
| 2. | <u>Roddy D. and Coolen J.</u> | <u>Electronic communications</u> | Prentice Hall | 2002 |
| 3. | <u>Keiser G.</u> | <u>Optical fiber communications</u> | McGraw-Hill | 2000 |
| 4. | <u>Haykin S.</u> | <u>Communication systems</u> | Wiley India | 2006 |
| 5. | <u>Selvarajan A., Kar S., and Srinivas T.</u> | <u>Optical fiber communications : Principles and systems</u> | Tata McGraw-Hill | 2006 |