

**MES COLLEGE MARAMPALLY**  
**DEPARTMENT OF ELECTRONICS**  
**CERTIFICATE COURSE**  
**ON**  
**DATA COMMUNICATION & COMPUTER HARDWARE**

***Syllabus:***

**Unit 1:** (5 hrs.)

What is communication, Uses of communication, Types of communication systems, data communication. Transmission impairments- attenuation, distortion and noise. Data and signals-analog and digital, periodic and aperiodic signals, bit rate, baud rate, bandwidth.

**Unit 2:** (8 hrs.)

Communication system – block diagram. Modulation- need for modulation, Amplitude Modulation (AM) and Frequency Modulation (FM). Digital modulation – Pulse Code Modulation (PCM). Shift Keying – Amplitude Shift Keying (ASK), Frequency Shift Keying (FSK), Phase Shift Keying (PSK).

**Unit 3:** (7hrs.)

Bandwidth utilization Multiplexing: Frequency Division Multiplexing (FDM) and Time Division Multiplexing (TDM). Simplex and duplex systems. Modems- functions, operation, types.

**Unit 4:** (10 hrs)

Computer Hardware: Introduction – Functional Units. PC Architecture. Form factor, Mother board components. Memory – Random Access Memory (RAM) Read Only Memory (ROM). Memory modules. Storage Devices: HDD, FDD, CDD.