

Syllabus for DPAT 2026

Programme: Master of Technology (Electronics and Telecommunication Engineering) (VLSI and ESD)

Engineering Mathematics

Complex numbers, matrices, differential equations, Laplace transform, Fourier series, probability, statistics, numerical methods

Electronic Devices & Circuits

Semiconductor fundamentals, PN junction diode, rectifiers, Zener diode, BJT, FET, MOSFET, biasing, amplifiers, feedback, oscillators

Analog Electronics

Operational amplifiers, applications of op-amp, active filters, oscillators, voltage regulators, power amplifiers, ADC/DAC

Digital Electronics

Number systems, Boolean algebra, logic gates, K-map, combinational circuits, sequential circuits, flip-flops, counters, registers, memories

Microprocessors & Microcontrollers

8086 architecture, instruction set, addressing modes, assembly programming, interfacing, 8051 architecture, timers, interrupts, serial communication

Communication Engineering

AM, FM, PM, modulation/demodulation, noise, transmitters, receivers, pulse modulation, digital communication, information theory

Electronic Measurements & Instrumentation

Measurement errors, measuring instruments, CRO/DSO, signal generators, transducers, sensors, data acquisition

VLSI & Semiconductor Technology

CMOS fundamentals, MOS structure, CMOS inverter, combinational/sequential CMOS circuits, fabrication, layout, ASIC/FPGA basics, VLSI design flow