



B. P. Poddar Institute of Management & Technology
Department of Electronics & Communication Engineering
(B Block)



Lab Details for AICTE Mandate

AY: 2021-22

S. No.	Name of the Laboratory	Name of Major Equipment	Facility
1.	Project Lab	CRO, Function Generator, Power Supply, Breadboard Trainer Kit, DSO, Data Acquisition System, Arbitrary Function Generator, Smartphone	Development and design of different project works; frequency analysis, signal analysis, comparison of different digital signals, spectrum of different modulated waves; debugging of different app based projects
2.	Electronic Devices Lab, Mini Project/Electronic Design Workshop	Trainer kit, CRO, Function Generator, DSO, Desktop Computer	Study of characteristics of various electronic components; design, development and implementation of mini projects
3.	Analog Electronic Circuits Lab	Trainer Kit, CRO, Function Generator, DSO	Study of various types of electronic circuits; assembling components on breadboard and constructing different electronics circuits
4.	Digital System Design Lab	Trainer Kit, IC Tester, Logic Scope	Study of different digital circuits; observation of timing diagram of registers and counters
5.	Analog Communication Lab	Modulation Trainer Kit, CRO, Function Generator, DSO, Distortion Meter, Digital Frequency Counter, TV Receiver, Pattern Generator, Power Supply, Bread-Board Trainer Kit.	Study of various modulators, demodulators, transceivers, filters and their design and usage
6.	Microprocessor and Microcontroller Lab	8085 Trainer Kit, Simulator on PC, 8051 Microcontroller Trainer Kit, Desktop Computer, CRO, DSO, MSP430 USB Microcontroller Development kit	Familiarization of CPU, memory and I/O devices; execution of assembly language programming, serial data communication between PC; interfacing of programmable chips and peripherals; design and realization of basic microprocessor and microcontroller based systems

S. No.	Name of the Laboratory	Name of Major Equipment	Facility
7.	Electromagnetic Wave Lab	Gunn Test Bench, Klystron Test Bench, DSO, Motorized Antenna Setup	Familiarization of RF and microwave components and devices; study of radiation pattern of various RF and microwave antennas; study of transmission lines
8.	Digital Signal Processing , Control System Lab, VLSI Design Lab	Xilinx Spartan2, Xilinx Spartan3, My Cad pro 2009, Mentor Graphics, Xilinx Web pack 10.1.i, MATLAB, Desktop Computer	Gain in-depth knowledge of signal processing by performing different experiments both simulation S/W and H/W processors; design and analysis of control systems; VLSI system design
9.	Computer Lab	Desktop Computer (Intel Core i5-8500 3 GHz CPU, 1 TB 7200 RPM SATA 6G 3.5 HDD, 8 GB DDR4 RAM, 19” LED Monitor)- 36 Nos.	High end computing
10.	Digital Communication Lab	Spectrum Analyzer, DSO, CRO, Function Generator, Function Generator with Frequency Counter, Distortion Meter, QPSK- OQPSK- DQPSK Trainer Kit, PAM- PWM-PPM Trainer Kit, TDM-PCM Kit, Data Formatting & Carrier Modulation Tx Trainer Kit, Carrier Demod & Data Reforming Rx Trainer Kit, DM-ADM Kit	Study of various types of modulators, demodulators and transceivers along with individual system part analysis; error detection and correction
11.	Embedded System and IoT Lab (Research Lab)	MSP 430 EXP G2 Launch Pad, CC110L Booster Pack, MSP 430F5529LP, Educational Booster Pack MKII, TIVA Launch Pad EK-TM4C123GXL, Sensor Hub Booster Pack for Tiva™ C, Simple Link Wi-FiCC3100 Booster Pack, Simple Link Wi-Fi Module, Groove Starter Kit, RSLK – Robotic System Lab Kit Basic, Raspberry Pi 3B 1GB RAM	Apply fundamental principles of electronics and communication into embedded system design using industry standard microcontrollers; study of robotics kits, modern wireless technology based various modules; programming in Embedded C and Python using Code Composer Studio, Energia and Raspbian OS; projects in the fields of embedded system, computer vision, image/video processing and IoT; study of MSP430 architecture and relevant projects; organization of workshops and training programs

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12.	Optical Communication and N/W Lab (May be used for M. Tech. Lab)	DSO, Spectrometer with Detector, Diode Laser Source, Optical power meter, Optical Bench, FDM Trainer Kit, TDM Trainer Kit, LED Trainer Kit, OTDR, Optical Bread Board, Helium Neon Laser Source, OptiSystem Software (Full Version)	Study of optical communication systems and their components; research projects; organization of workshops and training programs

N/B: Lab no. 12 has been shown for PG course so may be removed from this list.

Sd/-

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