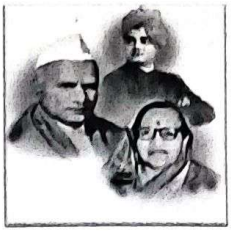
"Dissemination of Education for Knowledge, Science & Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe

Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)



Department of Electronics
Course Outcomes (Cos): Electronics Department

B.Sc. III Electronics (Implemented from 2025-26 onwards) as per NEP-1.0	
Semester V	
DSC-IX: DSC03ELE51: Fundamentals of Instrumentation	
CO No.	**After completion of the courses, students will be able to:**
CO1:	Understand the fundamentals of measurement and performance characteristics of instruments
CO2:	Apply fundamental knowledge of Instrument for electrical measurements
CO3:	Understand the principles, types, and selection criteria of transducers in various engineering applications.
CO4:	Understand the concepts, principles and types of actuators
DSC-X: DSC03ELE52: 8051 Embedded Systems	
CO1:	Program 8051microcontroller using Embedded C
CO2:	Interface and control various input and output devices using microcontrollers
CO3:	Understand and implement ADC and DAC interfacing techniques effectively
CO4:	Interface various sensors to 8051microcontroller
DSC-XI: DSC03ELE53: Antenna and Wave Propagation	
CO1:	Understand the fundamentals of antenna theory
CO2:	Get familiarize with different parameters of antenna
CO3:	Get familiarize with application of antenna according to types of antenna
CO4:	Create awareness about the different types of propagation of radio waves at different frequencies

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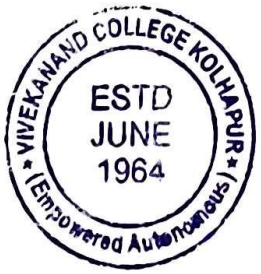
Semester: V	
DSE-I: DSE03ELE51: Programmable Logic Controller (PLC)	
CO No.	**After completion of the courses, students will be able to:**
CO1:	Understand the basics of control system
CO2:	Understand the different types of controllers
CO3:	Describe typical concepts and components of a Programmable Logic Controller
CO4:	Understand Ladder programming and design basic PLC circuits for entry-level PLC applications
MIN-IX: MIN03ELE51: Fundamental of Internet of Things (IoT)	
CO1:	understand the basic architecture of Internet of Things based Devices
CO2:	illustrate wireless communication systems
CO3:	identify actuators and sensor technologies for s for sensing real world entities
CO4:	implement IoT with Arduino



B.Sc. III Electronics (Implemented from 2025-26 onwards) as per NEP-1.0	
Semester VI	
DSC-XII: DSC03ELE61: Industrial Instrumentation	
CO No.	**After completion of the courses, students will be able to:**
CO1:	Design and study different OP-AMP circuits
CO2:	Design and implement active filter circuits
CO3:	Distinguish analog and digital instruments
CO4:	Design and implement VCO, V to F and V to F converter using different ICs
DSC-XIII: DSC03ELE62: Advanced Microcontroller	
CO1:	Understand the architecture and function of each pin of AVR 8-bit Microcontroller
CO2:	Write, debug and simulate embedded C language programs
CO3:	Understand Timer operation, Interrupt environment and Serial Communication
CO4:	Understand the interfacing of various systems with AVR microcontroller
DSC-XIV: DSC03ELE63: Power Electronics	
CO1:	Understand basic power electronic devices and their role in power conversion
CO2:	Understand the types, characteristics, and applications of Thyristors
CO3:	Understand and analyse performance of controlled and uncontrolled converters.
CO4:	Understand working principles of Power Systems
DSE-II: DSE03ELE61: Internet of Things (IoT)	
CO1:	Gain knowledge about the architecture of IoT systems
CO2:	Study the working principle of various types of sensors and actuators used in IoT applications
CO3:	Explore wireless technologies for IoT and gain an overview of different IoT protocols
CO4:	Explore cloud platforms used in IoT, including IoT dashboards and various cloud service providers

MIN-X: MIN03ELE61: IoT System Design	
CO No.	**After completion of the courses, students will be able to:**
CO1:	Understand IoT protocols
CO2:	Understand Cloud Platforms
CO3:	Design IoT systems with ESP8266
CO4:	Design and implement IoT Applications

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(Dr. C. B. Patil)
HEAD
DEPARTMENT OF ELECTRONICS
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(EMPOWERED AUTONOMOUS)