

**“Education for knowledge, science and culture” - Shikshanmaharshi Dr. Bapuji Salunkhe
Shri Swami Vivekanand Shikshan Sanstha’s
VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
B. Sc. Part – I (Computer science Entire)
NEP Syllabus with effect from June, 2023**

Course Outcomes

Semester: I

Major

Paper-I: Introduction to computers -I

After completion of this course students will be able :

CO1	To learn fundamental concepts of computers.
CO2	To learn the principles of office automation.
CO3	To learn Input, Output Devices and Concept of Memory
CO4	To teach basic principles of Operating system.

Paper-II -Programming in C-I

After completion of this course students will be able:

CO1	To have the knowledge of programming concepts like program, algorithms, flowcharts and pseudo code.
CO2	To have the basic know of C programming language like variable, constants, data type and operators.
CO3	To have the knowledge of input output statements and control structures used in C.
CO4	To develop skills of writing simple programs using C.

Minor

Paper-I: ANALOG ELECTRONICS

After completion of this course students will be able:

CO1	To demonstrate and explain electrical components and determine the value of resistance of resistor, Inductance of inductor and capacitance of capacitor using color code method.
CO2	To acquire the knowledge about the characteristics and working principles of PN junction diode, Zener diode, photo diode, LED and different diode applications.
CO3	To analyze output in different operating modes of Bipolar Junction Transistor and demonstrate the Operating principle and output characteristics of Bipolar Junction Transistor
CO4	To design biasing circuits for BJT and study different coupling methods used in multistage amplifiers.

Paper-II: DIGITAL ELECTRONICS – I

After completion of this course students will be able:

CO1	To understanding the basics of Digital Electronics and different number systems and conversion between them
CO2	To design and construction of the basic and universal logic gates and Studying the Boolean algebra and Simplification of Boolean expression using different methods.
CO3	To understand, analyze and design various combinational circuits.
CO4	To understand, analyze and design various sequential circuits.



Open Elective

Paper-I: Foundational mathematic

After completion of this course students will be able:

CO1	To construct simple mathematical proofs and possess the ability to verify them.
CO2	To design and construction of the basic and universal logic gates and Studying the Boolean algebra and Simplification of Boolean expression using different methods.
CO3	To understand, analyze and design various combinational circuits.
CO4	To understand, analyze and design various sequential circuits.

Open Elective

Semester -I STATISTICS Descriptive statistics-I

After completion of this course students will be able:

CO1	To demonstrate understanding of descriptive statistics by practical application of quantitative reasoning and data visualization.
CO2	To calculate and interpret the various descriptive measures for centrality and dispersion
CO3	To enumerate various measures of dispersion
CO4	To compute correlation coefficient and its interpretation, compute regression coefficients and regression lines.

Semester: II

Major

Paper- I: Introduction to computers –II

After completion of this course students will be able:

CO1	To define the basics in Ms Access.
CO2	To visualize the basic concept of HTML.
CO3	To recognize the elements of HTML.
CO4	To develop the concept of web publishing.

Paper-II: Programming in C-II

After completion of this course students will be able:

CO1	To develop logic for problem solving.
CO2	To teach basic principles of programming.
CO3	To develop skills for writing programs using 'C'.
CO4	To implement real world problems using programming language

Semester: II

Minor

Paper-I: INSTRUMENTATION

After completion of this course students will be able:

CO1	To describe the working principle, selection criteria and applications of various transducers used in instrumentation systems.
CO2	To gain knowledge about different type of signal conditioning circuits, data converters and understand construction, working principle of different types of digital instruments.
CO3	To analyze the design of an analog to digital converter and digital to analog converter.
CO4	To apply Data Acquisition system and ADC & DAC in real time measuring system



Paper-II: DIGITAL ELECTRONICS – II

After completion of this course students will be able:

CO1	To explain and compare the working of multivibrators using special application IC 555.
CO2	To understand design of multivibrator circuit, various memories and differentiate them.
CO3	To describe the architecture and functional block diagram of 8085 microprocessor along with pins and their functions
CO4	To understand and classify the instruction set of 8085 microprocessor and distinguish the use of different instructions and apply it in assembly language programming.

Open Elective

Paper-I: Operations Research

After completion of this course students will be able:

CO1	Learn about characteristics, scope, limitations of operations research.
CO2	Formulate and apply suitable methods to solve linear programming Problems.
CO3	Use different methods for solving transportation and assignment problems.
CO4	Study different techniques for solving games

Open Elective

Probability and Discrete

Probability Distributions-I

After completion of this course students will be able:

CO1	Distinguish between Deterministic and Non-deterministic experiments.
CO2	Understand the basic concepts of probability, conditional probability and independence of events.
CO3	Learn theorems on probabilities and compute probabilities.
CO4	Understand the concept of discrete random variable, probability distributions and mathematical expectation.

Skill Enhancement Course (SEC)

After completion of this course students will:

CO1	Understand basic knowledge of MS-Excel
CO2	Formatting techniques and presentation style.
CO3	Manipulate data using data names and ranges, filters and sort, and validation lists.
CO4	Learning the use and utility of functions and formulas on excel spreadsheet.



Pooja
CHAIRMAN
BOS B.SC.COMPUTER SCIENCE (ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)