



New Satara Samuh Mumbai's  
**New Satara College of B.C.A**  
**Pandharpur**

[Approved By Govt. of Maharashtra, Affiliated to P.A.H.Solapur University Solapur]

429/1/B/1, Karad Road, Near Mahadev Temple, Korti, Tal- Pandharpur, Dist: - Solapur, Pin-413304  
☎ 9225538306 E-Mail: [newsatarbca@gmail.com](mailto:newsatarbca@gmail.com) Website: [www.newsatarabca.com](http://www.newsatarabca.com)

**Founder President:** - Mr. Rajaram (Nana) M. Nikam

**BACHELOR OF COMPUTER APPLICATION (BCA)**

**PROGRAMME OUTCOME (PO)**

At the end of the three-year BCA programme the students will be able to:

• **P01-Computer Systems Knowledge:** Understand the computer systems, including hardware architecture, operating systems, and networking principles, enabling them to develop efficient and reliable software solutions.

• **P02-Problem-Solving & Analysis:** Able to think rationally, analyse and solve problems adequately

**P03-Software Engineering Proficiency:** Apply standard software engineering practices and strategies in software project development

• **P04-Diverse Programming Skills:** Understand, analyse and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer-based system.

• **P05-Effective Communication:** Ability to speak, read, write and listen clearly in person and through electronic media in English and make use of technology

**P06-Ethical Awareness:** Identify various value systems, assess moral dimensions of decisions, and take accountability for them.



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**Course Outcomes**  
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**1) Course Name: Computer Networks**

- 1) familiar with the different Network Models.
- 2) Understand different network technologies and their application.
- 3) update with different advanced network technologies that can be used to connect different networks.
- 4) familiar with various hardware and software that can help run a smooth network.

**2) Course Name: Programming in Python**

- 1) Familiar with Python environment, data types, operators used in Python.
- 2) Compare and contrast Python with other programming languages.
- 3) Learn the use of control structures and numerous native data types with their methods.
- 4) Design user defined functions, modules, and packages and exception handling methods.
- 5) Create and handle files in Python and learn Object Oriented Programming Concepts.

**3) Course Name: Data Structures**

- 1) Apply appropriate constructs of Programming language, coding standards for application development
- 2) Use appropriate data structures for problem solving and programming .
- 3) Use algorithmic foundations for solving problems and programming.
- 4) Apply appropriate searching and/or sorting techniques for application development.

**4) Course Name: Database Management Systems**

- 1) Understand the basic concepts of DBMS.
- 2) Formulate, using SQL, solutions to a broad range of query and data update problems.
- 3) Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
- 4) Understand the concept of Transaction and Query processing in DBMS.



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**5) Course Name: Operating Systems.**

- 1) Discuss the evaluation of operating systems.
- 2) Explain different resource managements performed by operating system.
- 3) Describe the architecture in terms of functions performed by different types of operating systems.
- 4) Analyze the performance of different algorithms used in design of operating system components.

**6) Course Name: Web Designing.**

- 1) Understand the core concepts of Internet and Web Services.
- 2) Describe and differentiate Programming Language and Markup Language.
- 3) List various web pages and web sites together.
- 4) Capture user input from the remote users.
- 5) Learn connectivity concepts of Front End and Back End process.

**7) Course Name: Fundamentals of Computer and IT**

- 1) Understanding the concept of input and output devices of Computers
- 2) Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.
- 3) Understand an operating system and its working, and solve common problems related to operating systems
- 4) Learn basic word processing, Spreadsheet and Presentation Graphics Software skills.
- 5) Study to use the Internet safely, legally, and responsibly

**8) Course Name: Problem Solving using C**

- 1) Student should be able to understand the logic building used in Programming.
- 2) Students should be able to write algorithms for solving various real life problems.
- 3) To convert algorithms into programs using C .



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**9) Course Name: Mathematics**

- 1) Represent data using various mathematical notions.
- 2) Explain different terms used in basic mathematics.
- 3) Describe various operations and formulas used to solve mathematical problems.

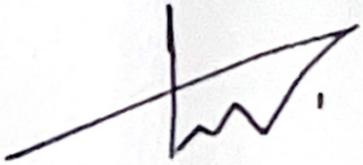
**10) Course Name : Visual Programming.**

- 1) The student will use VB to build Windows applications using structured and object-based programming techniques. Students are exposed to the following concepts and skills at an Introductory conceptual level:
- 2) Design, formulate, and construct applications with VB
- 3) Integrate variables and constants into calculations applying VB.
- 4) Determine logical alternatives with VB decision structures
- 5) Implement lists and loops with VB controls and iteration
- 6) Separate operations into appropriate VB procedures and functions
- 7) Assemble multiple forms, modules, and menus into working VB solutions
- 8) Create VB programs using multiple array techniques
- 7) Build integrated VB solutions using files and structures with printing capabilities
- 8) Translate general requirements into data-related solutions using database concepts
- 9) Learn and Design applications using VC++ concepts like dialog boxes, menus etc Objectives:
  - a) Learn to develop front end application programs.

**11) Course Name : Java Programming .**

- 1) Able to understand the use of OOPs concepts.
- 2) Able to solve real (time) problems using OOP techniques.
- 3) Able to understand the use of abstraction.
- 4) Able to understand the use of Packages and Interface in java.
- 5) Able to develop and understand exception handling, multithreaded applications with



  
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**12) Course Name : Computer Graphics**

- 1) The main objective of this module is to introduce to the students the concepts of computer graphics.
- 2) Various applications, areas, and graphics displays and hardcopy technologies.
- 3) Demonstrate the overview of graphics system and make use of various drawing algorithms of output primitives
- 4) Apply and compare the algorithms for drawing 2D images also explain aliasing, anti-aliasing and half toning techniques.
- 5) Experiment with the geometric transformations and different algorithms for viewing and

**13) Course Name : Recent Trends in IT**

- 1) It begins by providing an overview of recent trends in the access and use of new technologies as well as a summary of online opportunities and risks.
- 2) Pursue advanced knowledge and professional development in the field of information technology.
- 3) It then explores a variety of factors, including economic, social and cultural status which underlie the set trends and lead to online and offline inequalities.
- 4) Create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
5. Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

**14) Course Name : Linux & Shell Programming**

- 1) To provide introduction to Linux Operating System and its File System.
- 2) To develop the ability to formulate Regular Expressions and use them for Pattern Matching
- 3) Understand the Linux commands.
- 4) To acquire skills shell programming
- 5) To implement various system calls.
- 6) To learn basics concepts of system administration, networking



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**15) Course Name : Data Warehouse and Data Mining**

- 1) Identify the scope and necessity of Data Mining & Warehousing for the society
- 2) To understand various tools of Data Mining and their techniques to solve the real time problems.
- 3) Pre-process the data for mining applications
- 4) Apply the association rules for mining the data
- 5) Design and deploy appropriate classification techniques
- 6) Cluster the high dimensional data for better organization of the data

**16) Course Name : Cryptography and Network Security**

- 1) Illustrate the principles of number theory and compare various cryptographic techniques.
- 2) Demonstrate how Block Ciphers such as DES, AES, Triple DES, RC5 and public key crypto-systems are implemented.
- 3) Apply hash function and digital signatures to implement authentication protocols
- 4) Illustrate the role of firewall in implementing trusted systems
- 5) Analyze how applications can be secured

**17) Course Name : Advanced Python**

- 1) Students should be made familiar with the concepts of GUI controls and designing GUI applications.
- 2) To develop the web applications
- 3) Understanding the XML Concepts
- 4) To understand and implement the concept of networking in Python



  
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