# BON SECOURS COLLEGE FOR WOMEN

Nationally Accredited with 'A' Grade by NAAC

UGC Recognized 2(f) and 12(B) Institution

VILAR BYPASS, THANJAVUR – 613 006

## DEPARTMENT OF INFORMATION TECHNOLOGY

### PROGRAM OUTCOME

**PO1: Analyzing a problem:** Identify and resolve technical problems using trouble-shooting and research techniques.

**PO2: Team work:** Effectively function as an individual and as a leader in team and in different disciplinary.

**PO3: Building a Project:** Design, plan, budget and propose an IT project for an identified need within a specific scope.

**PO4: Technical Capabilities:** Install technical hardware and software including network, database and security components.

**PO5: Needs/Maintenance:** Perform routine maintenance to maintain the currency of an operating system, network, database and security needs.

**PO6: Programming Knowledge:** Implementing solutions by identifying and applying the practical knowledge to the end user complex programming problems.

**PO7: Effective Communication:** Being able to write effective reports and prepare documentation to make effective presentation.

### PROGRAMME SPECIFIC OUTCOME

**PSO1:**Ability to apply knowledge in mathematics, science fundamentals to solve problems.(L2)

**PSO2:**Understand the basic concepts of system software, hardware. (L2)

**PSO3:**Design, and analyse precise specifications of algorithms, procedures, and interaction behaviour. (L4)

**PSO4:**Apply the technologies in various fields of IT, including Mobile applications, Web site development and management, databases, and computer networks. (L3)

**PSO5:**Ability to Work in teams as well as individual to build software systems and to use a range of programming languages and tools to develop computer programs to solve problems effectively. (L3)

**PSO6:**Ability to communicate effectively in both verbal and writing form in industry and society. (L2)

**PSO7:**Ability to select appropriate techniques to tackle and solve problems in the discipline of information security management. (L2)

## COURSE OUTCOME

### INTRODUCTION TO INFORMATION TECHNOLOGY

1. Understand the basic terms and terminology of Computer. (Remembering-L1)
2. Have a basic understanding of CPU Memory and Storage devices. (Understanding-L2)
3. Understand the basics of computer software and the programming languages, various operating systems and its classification and the concepts of database management systems.(understanding-L2)
4. Aware how computers used in home, education, entertainment, science and medicine(Applying-L3)
5. Identify, design, and analyze complex computer systems and implement and interpret the results from those systems.(Analyzing-L4)

### BASIC COMPUTER USAGE LAB

1. Understand the basic concepts, usage and applications of personal computers. (Understanding- L2)
2. Apply an idea to get documentation by using different options available in Ms.Word. (Applying-L4)
3. Create, edit, spread-sheet and present documents using the relevant application softwares. (ie MS Word, MS Exel, MS Powerpoint) (Applying-L4)
4. Analyse the data using spread sheet (Analyzing-L4)
5. Develop presentation by using different options available in MS Powerpoint.(Evaluate L5)

### PROGRAMMING IN C++

1. Understand the basic building blocks of C++ programs.( Understanding-L2)
2. Apply logical skills to programming in C++ (Applying-L3)
3. Explain class structures as fundamental, modular building blocks .(Applying-L3)
4. Understand the file handling and error handling mechanisms in C++.( Understanding-L2)
5. Ability to develop applications using Object Oriented Programming Concepts.(Applying-L3)

### PROGRAMMING IN C++ LAB

1. Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism (Understanding-L2)
2. Understand advanced features of C++ specifically stream I/O, templates and operator overloading(Understanding-L2)
3. Demonstrate the ability to analyze, use, and create functions, classes, to overload operators (Analyse-L4)
4. Demonstrate the ability to understand and use exception handling and file handling mechanism(Understanding-L2)
5. Understand implementation issues related to object-oriented techniques. (Understanding-L2)

## DIGITAL COMPUTER FUNDAMENTALS

1. Identify the logic gates and their functionality (Understanding- L2)
2. Perform Number Conversions from one System to another System (Applying- L3)
3. Design basic electronic Circuits(combinational circuits) (Applying-L3)
4. Understand the Construction of Memory(Understanding- L2)
5. Understand the logic circuits and demonstrate flip flops(Understanding-L2)

## DATA STRUCTURE AND ALGORITHMNS

1. Able to know how data organized in the computer memory.(Understanding –L2)
2. Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.(Applying-L3)
3. Implement appropriate sorting/searching technique for given problem(Applying-L3)
4. Demonstrate a familiarity with major algorithms and data structures.(Applying-L3)
5. Determine and analyze the complexity of given Algorithms.(Analyzing-L4)

## COMPUTER NETWORKS

1. Understand computer network basics, network architecture, TCP/IP and OSI reference models. (Understanding-L2)
2. Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation.(Understanding-L2)
3. Analyze and understand the various protocols such as FTP, HTTP, Telnet, DNS, SSH, and SMTP. (Analyze-L4)
4. Explain the types of transmission media with real time applications(Applying-L3)
5. Identify and understand various techniques and modes of transmission(Understanding-L2)

## OPERATING SYSTEM

1. Describe the important computer system resources and the role of operating system in their management policies and algorithms.(Understanding-L2)
2. Understand the process management policies and scheduling of processes by CPU (Understanding-L2)
3. Evaluate the requirement for process synchronization and coordination handled by operating system (Analyze-L4)
4. Describe and analyze the memory management and its allocation policies. (Analyze-L4)
5. Identify use and evaluate the storage management policies with respect to different storage management technologies. (Analyze-L4)

## SOFTWARE ENGINEERING

1. How to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment (Understanding-L2)
2. An ability to work in one or more significant application domains(Applying-L3)
3. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software (Applying-L3)
4. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle(Applying-L3)
5. Demonstrate an ability to use the techniques and tools necessary for engineering practice (Analyze-L4)

## SBE – II COREL DRAW

1. Familiarize with the basics of Corel Draw, such as creating and saving documents, using fonts, resizing, rotating and moving documents and getting help.(Understanding-L2)
2. Design a publication using logo and content with graphics.(Applying-L3)
3. Acquire skill to conceptualize and create Logos, various types of print designs, Pamphlets, Posters, Invitation cards, Greeting cards, Wrappers, Advertisements, Banners and Package.(Applying-L3)
4. Learn to work with bitmap and vector effects, layers, lenses and masks.(Applying-L3)
5. Learn to work with templates: open an existing template file, modify it and create their own templates. (Applying-L3)

## SBE – III DREAM WEAVER

1. Use Adobe Dreamweaver to create personal and/or business websites following current professional and/or industry standards.(Understanding-L2)
2. Able to include to audio, video, flash, java applets and images (Applying-L3)
3. Design different layout styles which includes backend programming(Applying-L3)
4. Use critical thinking skills to design and create a basic, multi-page website.(Analyze-L4)
5. Use Adobe Dreamweaver and a stand-alone FTP program to upload files to a web server. (Applying-L3)

## COMPUTER GRAPHICS AND ANIMATION LAB

1. Create composite images that demonstrate advanced selection and layering techniques.(Understanding-L2)
2. Apply painted masks, selection-based masks, gradient masks, and blend modes to create sophisticated image effects.(Applying-L3)
3. Use preset brushes and custom brushes to colorize images, enhance images, and build illustrations.(Applying-L3)
4. Use basic tools in Flash and make simple drawing and painting.(Applying-L3)
5. Create an image with customized colors and apply transformation on objects. (Understanding-L2)

## PROGRAMMING IN C

1. Makes students gain a broad perspective about the uses of computers in engineering industry. (Remembering L1)
2. Understanding of computers, the concept of algorithm and algorithmic thinking. (Understanding L2)
3. Develops the ability to analyze a problem, develop an algorithm to solve it.(Analyze L3)
4. Develops the use of the C programming language to implement various algorithms, and develops the basic concepts and terminology of programming in general. (Remembering L1)
5. Introduces the more advanced features of the C language.(Apply L3)

## PROGRAMMING IN C LAB

1. To Know concepts in problem solving (Evaluating L5)·
2. To do programming in C language (Understanding L2)·
3. To write diversified solutions using C language(Understanding L2)·
4. Explain the C code for a given algorithm. (Applying L3)·
5. Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.(Understanding L2)

## PROGRAMMING IN JAVA

1. Knowledge of the structure and model of the Java programming language.(Understanding L2)
2. Use the Java programming language for various programming technologies.(Applying L3)
3. Develop software in the Java programming language.(Understanding L2)
4. Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements.(Evaluating L5)

5. Propose the use of certain technologies by implementing them in the Java programming language to solve the given problem(Applying L3)

## PROGRAMMING IN JAVA LAB

1. Learn the Internet Programming, using Java Applets(Understanding L2)
2. Apply object-oriented programming features to program design and implementation.(Applying L3)
3. Enhance their programming skills by applying constructors and command-line arguments.(Applying L3)
4. Demonstrate the usage of packages, interfaces and multi threads.(Understanding L2)
5. Able to create GUI based applications using Applets and AWT controls.(Applying L3)

## COMPUTER ORGANSATION AND ARCHITECTURE

1. Identify, understand and apply different number systems and codes.(Remembering L1)
2. Understand the digital representation of data in a computer system. (Understanding L2)
3. Understand the general concepts in digital logic design, including logic elements, and their use in combinational and sequential logic circuit design. (Understanding L2)
4. Understand computer arithmetic formulate and solve problems, understand the performance requirements of systems.(Understanding L2)
5. Work as a team on a processor design and simulation project.(Analysing L4)

## MOBILE COMPUTING

1. Elaborate the principles and theories of mobile computing technologies.(Creating L6)
2. Explain the infrastructures and technologies of mobile computing technologies.(Understanding L2)
3. List applications in different domains that mobile computing offers to the public, employees, and businesses.(Remembering L1)
4. Explain the possible future of mobile computing technologies and applications..(Understanding L2)
5. Effectively communicate course work through written and oral presentations.(Analysing L4)

## DATABASE SYSTEM

1. Understand database concepts and structures and query language.(Understanding L2)
2. Read/Write the Extended, Unextended Relational Algebra Queries(Analysing L4)
3. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modelling, designing, and implementing a DBMS.(Applying L3)
4. Understand the E R model and relational model(Understanding L2)
5. Understand Functional Dependency and Functional Decomposition.(Understanding L2)

## WEBDESIGN

1. To create web elements like buttons, banners & Bars and of course complete UI designs. (Creating L6)
2. Forms and validations for your website. (Analysing L4)
3. Setting up page layout, color schemes, contract, typography in the designs.(Applying L3)
4. Publishes the site he/she designed.(Analysing L4)
5. Setting up a perfect landing page for business, clients and yourself.(Applying L3)

## DATABASE SYSTEM LAB

1. Have a broad understanding of database concepts and database management system software(Understanding L2)
2. Have a high-level understanding of major DBMS components and their function (Understanding L2)
3. Students are able to model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model.(Applying L3)
4. Students are able to write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS.(Applying L3)
5. Students are able to program a data-intensive application using DBMS APIs.(Understanding L2)

## Mini Project

1. Able to practice acquired knowledge within the chosen area of technology for project development. (Applying L3)
2. Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.(Remembering L1)
3. Reproduce, improve and refine technical aspects for engineering projects.(Analysing L4)
4. Work as an individual or in a team in development of technical projects.(Understanding L2)
5. Communicate and report effectively project related activities and finding.(Applying L3)