PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES
COURSE OUTCOMES

BCA

OUTCOMES:

At the end of Under Graduate Program at St. Thomas College (Autonomous), a student will have obtained:

PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives
PO2	Effective Communication: Ability to speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO3	Effective Citizenship: Ability to demonstrate empathetic social concern and equity-centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering
PO4	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable development
PO5	Ethical Living: Ability to recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them
PO6	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings
PO7	Problem Solving and Analytical Skills: Ability to think rationally, analyze situations and solve problems adequately

Program Specific Outcomes:

At the end of B.C.A. at St. Thomas College (Autonomous), Thrissur, a student will have developed:

PSO1	Understand the basic principles of program development by identifying and formulating problems and integrate resources to decisions using the problem solving approach
PSO2	Understand data based reasoning through translation of data into abstract concepts using computing technology based tools and develop real life applications
PSO3	Understand and recognize different value system and the moral dimensions of software development and applications and their outcomes and acceptthe responsibility for them
PSO4	Design web applications by understanding the global perspective .and make meaning of the world by connecting people ideas, media and technology

Course Outcomes:

B.C.A.

BCA1B01- Computer Fundamentals and HTML

At the end of this course, a student will have developed ability to:

CO1	Understand fundamentals of Computer.
CO2	Discuss the basics of computer organization.
CO3	Apply algorithm and draw flow charts for solving simple problems.
CO4	Analyze web page and identify its elements and attributes.
CO5	Identify importance of CSS in web page creation.

B.C.A.

BCA1B01- MATHEMATICAL FOUNDATION OF COMPUTER APPLICATIONS

At the end of this course, a student will have developed ability to:

CO1	Understand the basics of matrices, eigenvalues and their properties
CO2	Apply the concept of matrices to solve the system of linear equations
CO3	Compare the difference between the derivative at a point and derivative of a function.
CO4	Identify definite integrals as anti-derivative.
CO5	Develop knowledge of definite and indefinite integral and solving integrals by different methods.

B.C.A.

BCA1C02- DISCRETE MATHEMATICS

At the end of this course, a student will have developed ability to:

CO1	Understand the concepts offset theory and mathematical logic.
CO2	Discuss about Boolean algebra and its properties.
CO3	Distinguish various types of graphs and their properties.
CO4	Apply different algorithms to find the minimal spanning a graph.
CO5	Represent a graph in its matrix form.

B.C.A.

BCA2B02- PROBLEM SOLVING USING C

At the end of this course, a student will have developed ability to:

CO1	Understand the basic fundamentals and structure of C programming
CO2	Discuss concept of operators, library functions.
CO3	Formulate conditional and iterative statements to write C programs.
CO4	Conceive and Design the C programs that use arrays, strings, concept of modularization and userdefined functions, structures andunions.
CO5	Analyze the concept of pointers and file handling.

B.C.A.

BCA2C04- OPERATIONS RESEARCH

At the end of this course, a student will have developed ability to:

CO1	Understand the concept of operation research, their advantages, applications and limitations.
CO2	Formulate a real-world problem into a mathematical problem and solve it by means oflinear programming.
CO3	Solve specialized linear programming problem like the transportation and assignment problems.
CO4	Apply assignment algorithm to solve real world problems.
CO5	Identify the concepts of networks and different rules to construct a network.

B.C.A.

A11- PYTHON PROGRAMMING

At the end of this course, a student will have developed ability to:

CO1	Remember mathematical preliminaries for sets, languages and proof techniques
CO2	Understand model of computation formal languages and automata
CO3	Apply regular grammars and their automata for applications
CO4	Apply context free grammars and their automata for real applications
CO5	Understand different Turing machine automata

B.C.A.

A12- DATA COMMUNICATION AND OPTICAL FIBRES

At the end of this course, a student will have developed ability to:

CO1	Understand the protocols , standards of data communication and various transmissions
CO2	Identify the types of multiplexing and its application such as telephone system, cellular system and mobile communications
CO3	Discuss data link control, data link protocols, local area networks
CO4	Analyze and identify integrated services digital network and subscriber access to ISDN.
CO5	Understand optical fiber communication features of LASER diodes and LED

B.C.A.

BCA3B04- DATA STRUCTURES USING C

At the end of this course, a student will have developed ability to:

CO1	Understand the concept of dynamic memory management, data types, algorithm and Big O notations.
CO2	Design and implement various data structure algorithms.
CO3	Implement linear and nonlinear data structures.
CO4	Develop application using data structure algorithms.
CO5	Compute the complexity of various algorithms.

B.C.A.

BCA3C05- COMPUTER ORIENTED NUMERICAL & STATISTICAL METHODS

At the end of this course, a student will have developed ability to:

CO1	Understand basic knowledge of different number systems and their importance in reduction of errors.
CO2	Illustrate basic concept of the derivation and use of methods of interpolation.
CO3	Apply various statistical techniques such as measures of central tendency and dispersion.
CO4	Operate the concepts of correlation and regression in statistics in prediction.
CO5	Describe the basic knowledge of random variables and their properties.

B.C.A.

BCA3C06- THEORY OF COMPUTATION

At the end of this course, a student will have developed ability to:

CO1	Remember mathematical preliminaries for sets, languages and proof techniques
CO2	Understand model of computation formal languages and automata
CO3	Apply regular grammars and their automata for applications
CO4	Apply context free grammars and their automata for real applications
CO5	Understand different Turing machineautomata

B.C.A.

A13- Microprocessors Architecture and Programming

At the end of this course, a student will have developed ability to:

CO1	Understand the architecture of microprocessors
CO2	Understand the basics of assembly language programming
CO3	Understanding various methods of assembly language programming
CO4	Analyze different architecture of microprocessors

B.C.A.

BCA4B05- Database Management System and RDBMS

At the end of this course, a student will have developed ability to:

CO1	Understand the basic principles of database and database design
CO2	Understand conceptual model of database and ER modeling .
CO3	Understand relational database deign and normalization
CO4	Create and populate RDBMS using SQL and database frameworks
CO5	Create PL/SQL programs and transactions for real life database applications

B.C.A.

BCA4C07- E-Commerce

At the end of this course, a student will have developed ability to:

CO1	Understand basics of electronic commerce framework.
CO2	Understand the various models of E-Commerce
CO3	Understand the basics of networks and E-marketing
CO4	Understanding the security, legal and ethical issues in E-Commerce
CO5	Analysing the e-payment systems and designing the payment system

B.C.A.

BCA4C08- COMPUTER GRAPHICS

At the end of this course, a student will have developed ability to:

CO1	Understand core concepts of computer graphics, including display and input.
CO2	Interpret the mathematical foundation of the concepts of computer graphics.
CO3	Implement various algorithms to scan, convert the basic geometrical primitives, transformations.
CO4	Define the fundamentals of clipping and algorithms used for clipping.
CO5	Analyze image manipulation usingGIMP

B.C.A.

BCA5B07- Computer Organization and Architecture

At the end of this course, a student will have developed ability to:

CO1	Understand the concept of logic gates, combinational circuits and sequential circuits.
CO2	Interpret the functional architecture of computer system.
CO3	Analyze the functions ofeach element in memoryhierarchy.
CO4	Identify and compare different methods for computer I/O.
CO5	Evaluate the impact of memory element on computer performance/cost.

B.C.A.

BCA5B08- JAVA PROGRAMMING

At the end of this course, a student will have developed ability to:

CO1	Understand the object oriented programming concepts
CO2	Formulate Java programs using class and objects that may include basic data types, operators, tokens and control flow constructs
CO3	Understand and develop exception handling multithreaded applications with synchronizations and I/O
CO4	Conceive the idea of JDBC architecture and Connectivity
CO5	Design GUI based applications and develop applets for web applications

B.C.A.

BCA5B09- Web Programming Using PHP

At the end of this course, a student will have developed ability to:

CO1	Understand basic structure of the Internet
CO2	Analyze a web page and identify its elements and attributes.
CO3	Illustrate relationship between the client side and the server side scripts.
CO4	Describe the general concepts of PHP scripting language for the development of internet websites.
CO5	Apply the basic functions of MySQL database program.

B.C.A.

BCA5B10- PRINCIPLES OF SOFTWARE ENGINEERING

At the end of this course, a student will have developed ability to:

CO1	Understand and demonstrate basic knowledge in software engineering.
CO2	Understand basic software engineering process models
CO3	Design & develop the software projects.
CO4	Identify risks, manage the change to assure quality in software projects
CO5	Apply testing principles on software project and understand the maintenance concepts.

B.C.A.

BCA5D02- Web Designing

At the end of this course, a student will have developed ability to:

CO1	Understand the current technologies in internet.
CO2	Learn the language of the web: HTML and CSS.
CO3	Analyze a web page and identify its elements and attributes.
CO4	To learn the basics of JavaScript programming

B.C.A.

BCA6B11- Android Programming

At the end of this course, a student will have developed ability to:

CO1	Interpret android programming environment.
CO2	Describe android resources such as string, layout resources.
CO3	Compare the user interface controls in android.
CO4	Specify the activities and code behind the working of an android application and requirement of database.
CO5	Implement the android developing environment And develop a simple android application using database.

B.C.A.

BCA6B12- Operating Systems

At the end of this course, a student will have developed ability to:

CO1	Understand the process management policies and scheduling of processes by CPU
CO2	Describe the important computer system resources and the role of operating system in their management policies and algorithms
CO3	Identify use and evaluate the storage management policies with respect to different storage management technologies
CO4	Understand objectives & functions of Operating Systems.
CO5	Understand Shell Programming concepts

B.C.A.

BCA6B13- Computer Networks

At the end of this course, a student will have developed ability to:

CO1	To learn about basics of Computer Networks.
CO2	To learn various Protocols used in Communication.
CO3	Describe the functions of data link layer and explain the protocols.
CO4	To learn TransportLayer services and itsprotocols
CO5	To have a general idea on Network Administration.

B.C.A.

BCA6B16B - MACHINE LEARNING

At the end of this course, a student will have developed ability to:

CO1	Remember mathematical preliminaries for sets, languages and proof techniques
CO2	Understand model of computation formal languages and automata
CO3	Apply regular grammars and their automata for applications
CO4	Apply context free grammars and their automata for real applications
CO5	Understand different Turing machine automata

B.C.A.

BCA6B16c - Software testing & Quality Assurance

At the end of this course, a student will have developed ability to:

CO1	Investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs.
CO2	Implement various test processes for quality improvement
CO3	Design test planning and test process
CO4	Apply the software testing techniques in commercial environment
CO5	Use practical knowledge of a variety of ways to test software and an understanding of some of the tradeoffs between testing techniques

B.C.A.

BCA6B16d- Technical Writing

At the end of this course, a student will have developed ability to:

CO1	Understanding the basics and types of Technical Communication
CO2	Understanding the Constituents of Technical Written Communication
CO3	Analysing the forms of Technical Communication
CO4	Understanding the types of reports
CO5	Designing and presenting thecontent

B.C.A.

BCA6B16E - Fundamentals of Life Skill Education

At the end of this course, a student will have developed ability to:

CO1	Understanding the importance of life skill education
CO2	Understanding the importance and types of communication skills
CO3	Analysing the steps in selecting a career
CO4	Analysing the self
CO5	Learning the management of stress and strain