

PROGRAM SPECIFIC OUTCOMES

B.Com (Computer Application):

A student can

- ❖ Contribute to improve the formal language, edit and format the formal documentation, and office automation.
- ❖ Present his skills and knowledge through slides or presentations by using Information Technology.
- ❖ Virtual and pure virtual functions can be used in difficult programming settings.
Choose the proper programming construct for the job by comparing and contrasting the various programming constructs. Coding and Designing the information by the primary specific programming languages.
- ❖ Design the various databases into sequentially with primary key into a secured format. How to link a Java application with a SQL database and conduct actions on the database table (insert, update, and delete). Form data supplied from the client is processed and stored in a database using the server-side Java application known as Servlet. Design the web pages and various web sites with domains.
- ❖ Explain the process that should be followed in building an E-commerce presence. Identify the key security threats in the E-commerce environment. Describe how procurement and supply chains relate to B2B E-commerce.
- ❖ Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure. Design, develop, test and evaluate secure software. Develop policies and procedures to manage enterprise security risks. Protect the data from hackers through security applications.

B.A (Computer Applications):

Student is imparted with

- ❖ computer-related skills, including strong programming and mathematics abilities as well as project management, effective communication, and teamwork abilities
- ❖ knowledge of Machine learning, web development, data science, and video games
- ❖ skill to get employed in the computational, commerce, finance, education, medical, engineering, and science industrial sectors
- ❖ Describe the Text data into physically or visually and sense of hearing. Describe the various data elements into effectively by using internet. Apply the multimedia into different sectors like business, Schools, Colleges and public places. Prepare the audio and video visuals depend on their own knowledge.

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B.Com & B.A (COMPUTER APPLICATIONS) COURSES

I YEAR

B.COM-SEMESTER – I: FUNDAMENTALS OF INFORMATION TECHNOLOGY

Course Objectives:

- ❖ To understand the basic concepts and terminology of Information Technology and identify the issues related to information security
- ❖ Internal and External operation of a computer with various components.
- ❖ It is designed to teach students the fundamentals of Computers, Information Technology and Operating Systems.
- ❖ The lab component of this course is intended to provide students with practical experience with the concepts being covered in class.
- ❖ MS-OFFICE is the best source to design the formal documents, Presentations and Worksheets.

Course Outcomes:

- ❖ Determine when computational methods and computers would be beneficial.
- ❖ Identify and abstract the fundamental work involved in a computational challenge.
- ❖ Design the various documents and concepts with help of system applications and external applications.
- ❖ Based on the problem's needs, select the appropriate data representation formats.
- ❖ On a computer, write the software, edit it, compile it, debug it, correct it, recompile it, and run it.
- ❖ Identify tasks where the numerical concepts learnt may be applied and use them to develop programmes, allowing computers to solve the task successfully.
- ❖ By using MS-OFFICE, every user should maintain any task into formally.

B.A-SEMESTER – I: PROGRAMMING IN C

Course Objectives:

- ❖ Programming-as-problem-solving exposure is the goal of this course.
- ❖ It is designed to teach students the fundamentals of C programming.
- ❖ The lab component of this course is intended to provide students with practical experience with the concepts being covered in class.

Course Outcomes:

- ❖ Determine when computational methods and computers would be beneficial.
- ❖ Identify and abstract the programming work involved in a computational challenge.
- ❖ Write pseudo-code and apply the concepts acquired to the programming challenges.
- ❖ Based on the problem's needs, select the appropriate data representation formats.
- ❖ Choose the proper programming construct for the job by comparing and contrasting the various programming constructs.
- ❖ On a computer, write the software, edit it, compile it, debug it, correct it, recompile it, and run it.
- ❖ Identify tasks where the numerical concepts learnt may be applied and use them to develop programmes, allowing computers to solve the task successfully.

B.COM: SEMESTER – II PROGRAMMING WITH C & C++**Course Objectives:**

- ❖ To understand the fundamental concepts in programming in C and Object Oriented Programming in C++.
- ❖ Programming-as-problem-solving exposure is the goal of this course.
- ❖ It is designed to teach students the fundamentals of C programming
- ❖ In order to master the fundamentals of C/C++ programming principles and approaches.
- ❖ To learn the fundamentals of C/C++ programming through hands-on laboratory experiences. The programming environment will be Microsoft Visual Studio.
- ❖ Computer programmes written in the C/C++ programming language are expected to be thoroughly tested before implementation.

Course Outcomes:

- ❖ Take note of the difference between the top-down and bottom-up methods.
- ❖ Give an example of an object-oriented programming strategy using C++.
- ❖ Apply object-oriented programming principles.
- ❖ Using C++, demonstrate how to manipulate data files.
- ❖ Virtual and pure virtual functions can be used in difficult programming settings.
- ❖ Choose the proper programming construct for the job by comparing and contrasting the various programming constructs.

- ❖ On a computer, write the software, edit it, compile it, debug it, correct it, recompile it, and run it.
- ❖ Identify tasks where the numerical concepts learnt may be applied and use them to develop programmes, allowing computers to solve the task successfully.

B.A: SEMESTER – II: PROGRAMMING IN C++

Course Objectives:

- ❖ In order to master the fundamentals of C/C++ programming principles and approaches.
- ❖ To learn the fundamentals of C/C++ programming through hands-on laboratory experiences. The programming environment will be Microsoft Visual Studio.
- ❖ Computer programmes written in the C/C++ programming language are expected to be thoroughly tested before implementation.
- ❖ Writing modules that can be reused (collections of functions).

Course Outcomes:

- ❖ Take note of the difference between the top-down and bottom-up methods.
- ❖ Give an example of an object-oriented programming strategy using C++.
- ❖ Apply object-oriented programming principles.
- ❖ Using C++, demonstrate how to manipulate data files.
- ❖ Virtual and pure virtual functions can be used in difficult programming settings.

II YEAR

B.COM & B.A: SEMESTER – III: RELATIONAL DATABASE MANAGEMENT SYSTEMS

Course Objectives:

- ❖ To acquire basic conceptual background necessary to design and develop simple database system.
- ❖ To write good queries using Structured Query Language (SQL).
- ❖ We'll introduce database management systems, with a focus on how to efficiently and effectively extract information from a Relational Database Management System (RDBMS).

Course Outcomes:

Learners should be able to:

- ❖ Describe the main elements of relational database management systems

- ❖ Relational database design, relational algebra and SQL are some of the fundamental ideas that will be covered in this course.
- ❖ Simple database application situations can be represented using ER models.
- ❖ Assemble an RDBMS, populate it with relevant data, and write SQL queries to access it.
- ❖ Normalize the database to improve the design.
- ❖ Basic database storage structures and access strategies, including as file and page organizations, indexing algorithms such as B-trees, and hashing, are well-known.

B.COM: SEMESTER-IV: WEB TECHNOLOGY

Course Objectives:

- ❖ To gain skills of usage of web technologies to design web pages.
- ❖ Java technologies are used to construct web applications in this course that students will be able to use when they finish it. Students will get the necessary skills and project-based experience to enter the web application and development industry.

Course Outcomes:

- ❖ By using JavaScript and DHTML, students can create a dynamic web page.
- ❖ In this course, students will learn how to write an XML document that is well-formed and valid.
- ❖ This course will teach students how to link a Java application with a SQL database and conduct actions on the database table (insert, update, and delete). Form data supplied from the client is processed and stored in a database using the server-side Java application known as Servlet.
- ❖ To save data sent from a client form, students will be able to construct a server-side Java programme known as a JSP.

B.A: SEMESTER-IV: MULTIMEDIA SYSTEMS

Course Objectives:

- ❖ To design the data efficiently and effectively extract information from various elements like Text, Audio, Video, Animation and Graphics,

❖ Course Outcomes:

Learners should be able to:

- ❖ Describe the main elements of Multimedia Systems

- ❖ Describe the Text data into physically or visually and sense of hearing
- ❖ Describe the various data elements into effectively by using internet.
- ❖ Apply the multimedia into different sectors like business, Schools, Colleges and public places. And prepare the audio and video visuals depend on their own knowledge.

III YEAR

B.COM: SEMESTER – V: ELECTRONIC COMMERCE

Course Objectives:

- ❖ To acquire conceptual and application knowledge of e-commerce
- ❖ To acquire the knowledge on consumer oriented applications, e-marketing techniques and electronic payment systems.

Course Outcomes:

- ❖ Analyze the impact of E-commerce on business models and strategy.
- ❖ Describe the major types of E-commerce.
- ❖ Explain the process that should be followed in building an E-commerce presence.
- ❖ Identify the key security threats in the E-commerce environment.
- ❖ Describe how procurement and supply chains relate to B2B E-commerce.

B.A: SEMESTER – V: PROGRAMMING IN JAVA

Course Objectives:

- ❖ To gain a basic understanding of platform agnostic object-oriented language principles and basics.
- ❖ Writing programmes with exception handling and multi-threading in mind.
- ❖ In order to better comprehend streams and user interface design methods

Course Outcomes:

- ❖ The students will be able to use the syntax and semantics of Java programming language and the basic principles of OOP after completing the course.
- ❖ Create reusable applications by combining inheritance, polymorphism, interfaces, and packages.
- ❖ The concepts of multithreading and exception handling can be used to create error-free and fast programming.
- ❖ Create real-world-like GUI and web-based apps that are driven by events.

III- YEAR

B.COM: SEMESTER – VI: CYBER SECURITY

Course Objectives:

- ❖ To determine the information to understand that the main purpose of Cyber Security is to stop intruders & people who are trying to access your information without permissions.
- ❖ To provide the security to the damaged data which user will be accessed and processed\
- ❖ To stop or reduce harm for computer networks, apps, devices, and data.
- ❖ Cyber security is the protection of internet

Course Outcomes:

- ❖ Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure.
- ❖ Design, develop, test and evaluate secure software. Develop policies and procedures to manage enterprise security risks.
- ❖ To protect the data from hackers through security applications.

B.A: SEMESTER-IV: WEB TECHNOLOGY

Course Objectives:

- ❖ To gain skills of usage of web technologies to design web pages.
- ❖ Java technologies are used to construct web applications in this course that students will be able to use when they finish it. Students will get the necessary skills and project-based experience to enter the web application and development industry.

Course Outcomes:

- ❖ By using JavaScript and DHTML, students can create a dynamic web page.
- ❖ In this course, students will learn how to write an XML document that is well-formed and valid.
- ❖ This course will teach students how to link a Java application with a SQL database and conduct actions on the database table (insert, update, and delete). Form data supplied from the client is processed and stored in a database using the server-side Java application known as Servlet.
- ❖ To save data sent from a client form, students will be able to construct a server-side Java programme known as a JSP.

COURSE
OUTCOMES

List of Courses Offered by Dept. of Computer Sciences & Application

Semester	B.Sc.	B.Com.	B.A.
I	Programming in C	Fundamental of IT	Programming in C
II	Programming in C++	Programming with C and C++	Programming in C++
III	Data Structures	RDBMS	RDBMS
IV	Data Base Management System	Web Technology	Multimedia Systems
V	Programming in Java	e-commerce	Programming in Java
VI	Web Technology	Cyber Security	Web Technology

B.Sc. COMPUTER SCIENCE COURSES

I YEAR

SEMESTER I: PROGRAMMING IN C

Course Outcomes:

Learners could able to:

- ❖ Determine when computational methods and computers would be beneficial.
- ❖ Identify and abstract the programming work involved in a computational challenge.
- ❖ Write pseudo-code and apply the concepts acquired to the programming challenges.
- ❖ Based on the problem's needs, select the appropriate data representation formats.
- ❖ Choose the proper programming construct for the job by comparing and contrasting the various programming constructs.
- ❖ On a computer, write the software, edit it, compile it, debug it, correct it, recompile it, and run it.
- ❖ Identify tasks where the numerical concepts learnt may be applied and use them to develop programmes, allowing computers to solve the task successfully.

SEMESTER II: PROGRAMMING IN C++

Course Outcomes:

Learners could able to:

- ❖ Take note of the difference between the top-down and bottom-up methods.
- ❖ Give an example of an object-oriented programming strategy using C++.
- ❖ Apply object-oriented programming principles.
- ❖ Using C++, demonstrate how to manipulate data files.
- ❖ Virtual and pure virtual functions can be used in difficult programming settings.

II YEAR

SEMESTER III: DATA STRUCTURES USING C++

Course Outcomes:

Learners could able to:

- ❖ Establish a system for classifying the many distinct types of data structures that are used in computer systems.
- ❖ Investigate and put into practice several methods of searching and sorting
- ❖ Incorporate a variety of linear and non-linear data structures

- ❖ Use the right data structures to solve specific issues.
- ❖ Examine how difficult it is to perform simple operations on algorithms and data structures in terms of their time and space complexity.

SEMESTER IV: DATABASE MANAGEMENT SYSTEM

Course Outcomes:

Learners could able to:

- ❖ Describe the main elements of relational database management systems
- ❖ Relational database design, relational algebra and SQL are some of the fundamental ideas that will be covered in this course.
- ❖ Simple database application situations can be represented using ER models.
- ❖ Assemble an RDBMS, populate it with relevant data, and write SQL queries to access it.
- ❖ Normalize the database to improve the design.
- ❖ Basic database storage structures and access strategies, including as file and page organisations, indexing algorithms such as B-trees, and hashing, are well-known.

III YEAR

SEMESTER V: PROGRAMMING IN JAVA

Course Outcomes:

Learners could able to:

- ❖ use the syntax and semantics of Java programming language and the basic principles of OOP after completing the course.
- ❖ Create reusable applications by combining inheritance, polymorphism, interfaces, and packages.
- ❖ Use the concepts of multithreading and exception handling to create error-free and fast programming.
- ❖ Create real-world-like GUI and web-based apps that are driven by events.

SEMESTER VI: WEB TECHNOLOGIES

Course Outcomes:

- ❖ By using JavaScript and DHTML, students can create a dynamic web page.
- ❖ In this course, students will learn how to write an XML document that is well-formed and valid.

- ❖ This course will teach students how to link a Java application with a SQL database and conduct actions on the database table (insert, update, and delete). Form data supplied from the client is processed and stored in a database using the server-side Java application known as Servlet.
- ❖ To save data sent from a client form, students will be able to construct a server-side Java programme known as a JSP.

B. Com. COMPUTER APPLICATIONS COURSES

I YEAR

SEMESTER I: FUNDAMENTALS OF INFORMATION TECHNOLOGY

Course Outcomes:

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- ❖ Design the various documents and concepts with help of system applications and external applications.
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- ❖ By using MS-OFFICE, every user should maintain any task into formally.

SEMESTER II: PROGRAMMING WITH C & C++

Course Outcomes:

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- ❖ Apply object-oriented programming principles.
- ❖ Using C++, demonstrate how to manipulate data files.
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II YEAR

SEMESTER III: RELATIONAL DATABASE MANAGEMENT SYSTEMS

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III YEAR

SEMESTER V: ELECTRONIC COMMERCE

Course Outcomes:

- ❖ Analyze the impact of E-commerce on business models and strategy.
- ❖ Describe the major types of E-commerce.
- ❖ Explain the process that should be followed in building an E-commerce presence.
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- ❖ Describe how procurement and supply chains relate to B2B E-commerce.

SEMESTER VI: CYBER SECURITY

Course Outcomes:

- ❖ Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure.

- ❖ Design, develop, test and evaluate secure software. Develop policies and procedures to manage enterprise security risks.
- ❖ To protect the data from hackers through security applications.

B.A. COMPUTER APPLICATIONS COURSES

I YEAR

SEMESTER I: PROGRAMMING IN C

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SEMESTER II: PROGRAMMING IN C++

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SEMESTER IV: MULTIMEDIA SYSTEMS

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III YEAR

SEMESTER V: PROGRAMMING IN JAVA

Course Outcomes:

- ❖ The students will be able to use the syntax and semantics of Java programming language and the basic principles of OOP after completing the course.
- ❖ Create reusable applications by combining inheritance, polymorphism, interfaces, and packages.
- ❖ The concepts of multithreading and exception handling can be used to create error-free and fast programming.
- ❖ Create real-world-like GUI and web-based apps that are driven by events.

SEMESTER IV: WEB TECHNOLOGY

Course Outcomes:

- ❖ By using JavaScript and DHTML, students can create a dynamic web page.
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B.Sc. DATA SCIENCE COURSE

I YEAR

SEMESTER I: Fundamentals of Information Technology

Course Outcome:

- ❖ Identify the components of a computer and their functions.
- ❖ Understand the concept of networking, LAN, Internet, and working of www.
- ❖ Understand the notion of problem-solving using computer by programming
- ❖ Understand the notion of Software Project and the Process of software development

SEMESTER II: Problem Solving and Python Programming

Course Outcomes:

- ❖ Develop algorithmic solutions to simple computational problems.
- ❖ Develop and execute simple Python programs.
- ❖ Develop simple Python programs for solving problems.
- ❖ Structure a Python program into functions.
- ❖ Represent compound data using Python lists, tuples, dictionaries.
- ❖ Read and write data from/to files in Python Programs.

II YEAR

SEMESTER III: Data Engineering with Python

Course Outcomes:

- ❖ Learners should be able to:
- ❖ At the end of the course the student will be able to:
- ❖ Handle different types of files and work with text data
- ❖ Use regular expression operations
- ❖ Use relational databases via SQL
- ❖ Use tabular numeric data
- ❖ Use the data structures: data series and frames
- ❖ Use PyPlot for visualization

SEMESTER IV: Machine Learning

Course Outcomes:

- ❖ At the end of the course the student will be able to understand
- ❖ Basics of Machine Learning and its limitations

- ❖ Machine Learning Algorithms: supervised, unsupervised, bio-inspired
- ❖ Probabilistic Modeling and Association Rule Mining

III YEAR

SEMESTER V: Natural Language Processing

Course Outcomes:

- ❖ At the end of the course the student will be able to
- ❖ Write Python programs to manipulate and analyze language data
- ❖ Understand key concepts from NLP and linguistics to describe and analyze language
- ❖ Understand the data structures and algorithms that are used in NLP
- ❖ Classify texts using machine learning and deep learning

SEMESTER IV: NoSQL Data Bases

Course Outcomes:

- ❖ At the end of the course the student will be able to
- ❖ Understand the need for NoSQL databases and their characteristics
- ❖ Understand the concepts of NoSQL databases
- ❖ Implement the concepts of NoSQL databases using four example databases: Redis for key-value databases, MongoDB for document databases, Cassandra for column-family databases, and Neo4J for graph databases.