

Department: Computer Science

Course: BCA (Bachelor in Computer Applications)

Papers: All papers are given here

Sem.	Sl. No.	Course	Subject Outcome
SEM-I	1	BCA-HC-1016 Introduction to C programming	<ul style="list-style-type: none">• To give a practical exposure to problem solving in C programming.• To study the algorithms and flowcharts• To learn the programs and to solve problems through logical thinking using C
	2	BCA-HC-1026 Computer Fundamentals & ICT Hardware	<ul style="list-style-type: none">• Acquire confidence in using computers for general and official purposes.• Identify the basic components of computers and terminology.• Familiarize with different types of software, hardware, Operating System etc.
	3	ENG-AE-1014 Communicative English	<ul style="list-style-type: none">• Identifying the key terms in a text• Guessing meaning of the text in particular contexts• reading for overall idea of the text and for specific information• Knowing the context of the text• Comprehending a text meaningfully
	4	BCA-HG-1026: Office Automation	<ul style="list-style-type: none">• Familiarize with the commonly used MS-Office Package such as MS-Word, MS-Excel & MS-PowerPoint.• Use Word Processing Software viz. MS-Word to create, edit, format, open, save, print a document, insert header, footer, page number, images, shapes etc in a document and many more.• Use Spreadsheet Software viz. MS-Excel to create, edit, format, open, save, print a spreadsheet, apply several functions and formulae on the data, create graph and insert rows and columns and many more.• Use Presentation Software viz. MS-PowerPoint to create, edit, format, open, save and present a slide or presentation and many more.
SEM-II	5	BCA-HC-2016 Mathematics –I	
	6	BCA-HC-2026 Digital Logic Fundamentals	<ul style="list-style-type: none">• A thorough understanding of the fundamental concepts and techniques used in digital Logic circuits• Good hold over Boolean algebra and its application in combinational digital logic circuits.• Understanding of digital sequential circuits and classification of state machines• Ability to design, analyse and synthesize functional level digital logic circuits (combinational & sequential)• Ability to diagnose and resolve various hazards and timing problems in a digital circuit
		ENV-AE-2014 Environmental Studies	
	7	BCA-HG-2016:Basic Electronics	
	8	BCA-HC-2026 Digital Logic Fundamentals	<ul style="list-style-type: none">• To introduces the introductory concepts on computer hardware, software.• To learn additional concepts which help us to understand upcoming technologies, number systems and its applications, Boolean algebra and different types of gate, networks.

SEM-III	9	BCA-HC-3016 Software Engineering	<ul style="list-style-type: none"> • Clear understanding of the software life cycle models and the process of project planning and management techniques • Good understanding of the various software design methodologies. • Ability to carry out software requirements analysis for a given project. • Ability to convert software requirements to a design model. • Good understanding of the various testing and maintenance requirements and the ability to develop appropriate testing procedures for a given project.
	10	BCA-HC-3026 Data Structure and Algorithms	<ul style="list-style-type: none"> • Apply knowledge of data structures for abstraction of the data to systematically design efficient computational solutions. • Explain how basic data structures including: arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms. • Ability to analyze/characterize computational problems and choose appropriate data structures for solving them efficiently. • Demonstrate understanding of the various sorting and searching techniques and their efficiency. • Ability to analyze efficiency of various data structures in terms of space and time
		BCA-HC-3036 Database Management System	<ul style="list-style-type: none"> • Clear understanding of the concepts of database systems, their advantages, and applications. • Ability to carry out the conceptual modelling of the data for a given application. • Ability to evaluate functional dependencies in the data and model the data in a suitable normal form for a relational database. • Ability to carry out the database design using appropriate database model and to write optimized queries. • Familiarity with the database modelling techniques for emerging application areas
		BCA-SE-3014: Web Technology	<ul style="list-style-type: none"> • Understand key Internet technologies supporting the Internet applications. • Implement interactive web page(s) using HTML, CSS and JavaScript.
		BCA-HG-3026: Positive Psychology	
SEM-IV		BCA-HC-4016 Computer Organization and Architecture	<ul style="list-style-type: none"> • A good understanding of the architectural and organizational aspects of computer systems at the machine level. • Understanding of the basic principles used for achieving the devices and the various functional modules. • Knowledge of the various design options and their tradeoffs for the functional units as well as the machine. • Understanding of the quantitative performance evaluation of the modules and the machine. • Understanding of the mechanisms built into the machine to provide for the advance digital systems, operating system etc. and a perspective of the architectures used in high performance computers
		BCA-HC-4026 Mathematics-II	
		BCA-HC-4036	<ul style="list-style-type: none"> • Understand different styles of programming and their

	Object Oriented Programming in C++	<p>differences.</p> <ul style="list-style-type: none"> • Understand the principles of object-oriented problem solving and programming. • Outline the essential features and elements of the C++ programming language. • Apply the concepts of class, method, constructor, instance, data abstraction, function abstraction, inheritance, overriding, overloading, and polymorphism. • Analyze problems and implement C++ applications using an object-oriented approach.
	BCA-SE-4034: Advanced Web Technology	<ul style="list-style-type: none"> • Implement dynamic web page(s) using AJAX, jQuery, JavaScript, PHP etc. and database connectivity. • Describe and differentiate different Web Extensions and Web Services. • Implement at least one web security mechanism using PHP, JavaScript, or Python
	BCA-HG-4026: Information Security and Cyber Laws	<ul style="list-style-type: none"> • Identify, conceptualize, and rigorously formalize the concept of secure communication • Design and analyse security protocols including asymptotic efficiency and provable security • Recognize and explain aspects of number theory which are relevant to cryptography • Identify, explain, and apply cryptographic techniques like key management, digital signatures, digital certificates, and a Public-Key Infrastructure (PKI) to various disciplines in information science.
SEM-V	BCA-HC-5016 Java Programming	<ul style="list-style-type: none"> • Understand the basic concepts and principles of object oriented programming. • Produce sample use-cases, pseudo-code, and an incremental coding plan for a given problem specification. • Design, write, and test a Java program to implement a solution to a given problem specification. • Understand the operation of common data structures and algorithms.
	BCA-HC-5026 Operating System	<ul style="list-style-type: none"> • Clear understanding of the operating system policies and algorithms for the management of computer system resources. • Good knowledge of the of Operating system module functionalities, their working and the design issues • Ability to write programs with OS system calls for IPC, resource utilization etc. • Ability work with OS kernel
	BCA-HE-5016: Project Work / Dissertation (Credit: 6)	To train the student to independently search, identify and study real-life important topics in CS/IT; to develop skills among students in a particular field of CS/IT; and to expose students to the world of technology, innovation, and research
	BCA-HE-5046: Programming in Python	<ul style="list-style-type: none"> • Understand basic principles of computers • Understand basics of binary computation • Understand the programming basics (operations, control structures, data types, etc.) • Readily use the Python programming language • Apply various data types and control structure • Understand class inheritance and polymorphism • Understand the object-oriented program design and development • Understand and begin to implement code
SEM-IV	BCA-HC-6016 System Administration	<ul style="list-style-type: none"> • To understand the basic principles of Linux OS and also help them understand its utilities.

	using Linux	<ul style="list-style-type: none"> • To learn shell programming, a control section, and general coding. • Performing System administration using Linux.
	C14: BCA-HC-6026 Computer Networks	<ul style="list-style-type: none"> • Clear understanding of the principle and the design of layered the Computer Network Architecture. • Knowledge of the key functions performed by different widely known mechanisms and protocols at Network, Transport and Application Layers and the functionalities and use of the different networking devices. • Understanding the basic working behaviour of TCP, UDP and other Internetworking protocols. • Understanding of the needs of network security and the of different network security and authentication mechanisms. • Knowledge of the needs and protocols used in different network applications and the basic mechanisms used in data compression
	BCA-HE-6016: Automata Theory and Languages	<ul style="list-style-type: none"> • Introduce students to the basic concepts in theoretical computer science, and the formal relationships among machines, languages and grammars and computational problems. • Clarifies the practical view towards the applications of these ideas in engineering.
	BCA-HE-6066: Artificial Intelligence	<ul style="list-style-type: none"> • Getting students to appreciate the foundations of Artificial Intelligence and its future trends • Understanding of the basic elements constituting problems in an intelligent system and various approaches of solving them • Understanding the notions of uncertainty and decision making in real world problems • Introduction to learning mechanisms by which an intelligent system can improve its behaviour