Department of Computer Applications

BCA

S.No.	Course Code	Course Name	Course Outcomes
SEMESTER - I			
1.	18UCAC11	Core Course I: Foundation Course - C Programming	1. Develop and understanding of the compilation process. 2. Gain knowledge of the Basic data types and their operators. 3. Learn Flow control in c. 4. Find out how to develop C program using Array, Structure, Union, Pointers, Files and Basic Graphics functions. 5. Identify with design / implementation issues involved with variable allocation and binding. 6. Demonstrates how to use programming in day to day Applications. 7. Understand concepts of syntax, translation, abstraction, and implementation
2.	18UCAC1P	Core Course II: C Programming Lab	1. Understand C program through develop and understanding the compilation process. 2. Able to understand the basic concepts of C Programming. 3. Learn file, structure and pointer concepts implementations. 4. Identify with the concepts of syntax, translation, abstraction, and implementation. 5. Know the design / implementation issues involved with

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			variable allocation and binding and parameter passing. 6. Implement the C program using Array, Structure, and Union, Pointers, File and Basic Graphics concepts.
3.	18UCAN11	Non Major Elective Course I: Basics of Computers	1. Learn to access the Internet, Worldwide Web, as well as use Internet directories and search engines, and locate www addresses. 2. Develop an intuitive sense of how computers work and how they can be used to make academic work more efficient. 3. Find and evaluate information on the Web. 4. Able to understand the basic concepts of Topologies.
4.	18UCAE1P	Enrichment Course – I: Libre Office Lab	1. Learn to prepare document and text formatting. 2. Demonstrates excel sheet and chart display. 3. Give practical knowledge on usage of math functions. 4. Develop slideshow with animations.
5.	18UENE1P	Enrichment Course – I: Office Automation Lab	1. Construct them to prepare document, slide show. 2. Demonstrate them to prepare slides with animations. 3. Formulate them to prepare excel sheet, chart display. 4. Give practical knowledge on usage of functions.
SEMESTER – II			
6.	18UCAC21	Core Course - III: Object Oriented Programming with C++	1. Gain the basic knowledge on Object Oriented concepts. 2. Develop applications using Object Oriented Programming Concepts. 3. Explain programming fundamentals, including statement, control flow and recursion.

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			4. Articulate the principles of object-oriented problem solving and programming. 5. Understand the features of object oriented programming. 6. Demonstrate the pointers usage in C++. 7. Understand advanced features of C++ specifically stream I/O, templates and operator overloading.
7.	18UCAC2P	Core Course - IV: Object Oriented Programming with C++ Lab	1. Develop applications using Object Oriented Programming Concepts. 2. Implement features of object oriented programming to solve real world problems. 3. Analyze, write, debug, and test basic C++ codes using the approaches introduced in the course. 4. Demonstrate the implementation of constructors, destructors and operator overloading. 5. Apply fundamental algorithmic problems including type casting, inheritance. 6. Implement functions and constructors usage in C++.
8.	18UCAN21	Non Major Elective Course - II: Web Programming	1. Know the fundamentals of internet 2. Learn to access the World Wide Web. 3. Learn the tags for text formatting, table, list, links and frame. 4. Demonstrates Web page using Forms.
9.	18UCAE2P	Enrichment Course - II: Pre-Press Design Lab	1. Understand about shapes. 2. Learn to Design pattern. 3. Know about banner design.

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			4. Learn to create scenery.
10.	18UENE2P	Enrichment Course – II: Web Lab	1. Prepare slides with animations. 2. Able to find and evaluate information on the Web. 3. Learn basic browsing skills with E- Mail Id creation. 4. Know to create Web pages.
SEMESTER – III			
11.	18UCAC31	Core Course - V: Programming in Java	1. Obtain the knowledge of java programming Language. 2. Understand the concept of class, objects, inheritance, packages and interfaces. 3. Know about concepts of Multithreading and String manipulation. 4. Learn the advanced concepts of java. 5. Implement the abstract data types, encapsulation, inheritance and polymorphism. 6. Generate an application based upon the concepts of java & advance java 7. Develop an applet window.
12.	18UCAC3P	Core Course - VI: Programming in JAVA Lab	1. Familiar with the main features of the Java language. 2. Apply the basic concepts of RMI. 3. Learn to debug and test Java programs. 4. Ability to get the Knowledge of the structure and model of the Java programming language.

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			5. Understand the graphics concepts of Applet. 6. Demonstrate the java program using multi-threaded and exception handling
13.	18UCAA31	Allied Course – III: Digital Principles and Computer Organization	1. Employ Assembly Language procedures to simplify and modularize programs. 2. Learn the functions of Flip Flops and Adder. 3. Able to learn about instruction set and computer architectures. 4. Understand the architecture, function and characteristics of computers. 5. Discover to design the various functional units of digital computers. 6. Gain knowledge of memory.
14.	18UCAS3P	Skill Based Course - I: Digital Lab	1. Know the functions of basic electronic gates. 2. Implement the circuits using gates. 3. Construct physical models of basic components. 4. Understand the nature and scope of modern electronics
15.	18UCAV31	Value Based Course – I: Numerical Aptitude	1. Solve the numerical and quantitative aptitude problems. 2. Evaluate real life situations by resorting to analysis of key issues and factors. 3. Apply the rules, procedures, and techniques of appropriate deductive systems to analyze and solve problems.

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			4. Understand the ethics of the surrounding problems.
16.	18UENV3P	Value Based Course – I: DTP Lab	1. Understand about shapes. 2. Learn about the tools in Image editing tools. 3. Know about the shapes in Image editing tools. 4. Making to know greeting advertisement.
17.	18UCAEXP	Extra Credit Course – I: Advanced Flash Lab	1. Identify with text Morphing. 2. Comprehend the text effect. 3. Learn about the picture masking. 4. Realize different animation effects.
SEMESTER – IV			
18.	18UCAC41	Core Course – VII: Data Base Management System	1. Implement databases and applications software primarily in the relational model. 2. Use querying languages, primarily SQL, and other database supporting software. 3. Apply the theory behind various database models and query languages. 4. Pertain security and integrity policies relating to databases. 5. Design and implementing database projects. 6. Understand the Relational Algebra and calculus Notations.
19.	18UCAC4P	Core Course - VIII: Web Programming with Open Source and DBMS Lab	1. Educate HTML and CSS usage for Web design. 2. Implement the interaction between user and server using JavaScript.

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			3. Understand server side application using PHP. 4. Demonstrate the PHP and the MySQL database connectivity. 5. Familiar to work with queries in SQL. 6. Implement databases and applications software primarily in the relational model.
20.	18UCAA41	Allied Course - IV: Basic Financial Accounting	1. Understand ethical issues related to the accounting Profession. 2. Prepare financial statements in accordance with Generally Accepted Accounting Principles. 3. Employ critical thinking skills to analyze financial data as well as the effects of differing financial accounting methods on the financial statements. 4. Apply appropriate judgment derived from knowledge of accounting theory, to financial analysis and decision making. 5. Experience real-world learning and application of skills via their internship. 6. Recognize circumstances providing for increased exposure to fraud and define preventative internal control measures.
21.	18UCAO41	Major Elective Course - I: Web Programming with Open Source	1. Educate HTML and CSS usage for Web design. 2. Implement the interaction between user and server using JavaScript. . 3. Understand server side application using PHP.

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			4. Demonstrate the PHP and MyAdmin utility to administrate the MySQL database. 5. Manipulate strings in PHP using built-in functions. 6. Maintaining state using cookies, session variables and hidden form fields.
22.	18UCAO42	Major Elective Course - I: Artificial Intelligence and Expert Systems	1. Gain knowledge of the appreciation for and understanding of both the achievements of AI and the theory underlying those achievements. 2. Have a basic proficiency in a traditional AI language including an ability to write simple to intermediate programs. 3. Enclose an understanding of the basic issues of knowledge representation and blind and heuristic search. 4. Include a basic understanding of some of the more advanced topics of AI such as learning, natural language processing, agents and robotics, expert systems, and planning. 5. Learn and analyze important historical and current trends addressing artificial intelligence. 6. An ability to design, implements, and evaluate a computer-based system, process, component, or program to meet desired needs.
23.	18UCAO43	Major Elective Course - I: Consumer Affairs	1. The learners know about the need for consumer protection and the areas covered by consumer protection law. 2. Learners will have a clear idea on legislative controls on unconscionable conduct, misleading or deceptive conduct,

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			false or misleading representations and other unfair practices. 3. The learners know the legal obligations of a supplier of goods or services. 4. The learners know the obligations of manufacturers and the rights of consumers to compensation. 5. The learners know the bodies available to protect the rights of the consumer and discuss their operations.
24.	18UCAEXQ	Extra Credit Course – II: Worksheet Programming Lab	1. Able to prepare basic formulae. 2. Being capable to prepare charts. 3. Gain a practical knowledge on generation of reports. 4. Expand a practical knowledge about Grouping & Outlining and Subtotals.
SEMESTER – V			
25.	18UCAC51	Core Course - IX: Dot Net Programming	1. Develop proficiency in C# by building stand-alone applications in the DotNET framework using C#. 2. Utilize XML in the DotNET environment to create Web Service-based applications and components. 3. Develop working knowledge of C# programming constructs and the DotNET Framework. 4. Demonstrate an object oriented program using custom classes. 5. Build and debug well-formed Web Forms with ASP. NET Controls.

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			6. Perform form validation with validation controls. 7. Create custom controls with user controls.
26.	18UCAC5P	Core Course - X : Dot Net Programming Lab	1. Create applications that use ADO. NET. 2. Work with XML Documents. 3. Demonstrate the Crystal Reports. 4. Maintain the session and controls related information for user used in multi-user web applications. 5. Draw the Delegates and handle Events.
27.	18UCAC52	Core Course - XI: Software Engineering and Testing	1. Learn basic principles of software engineering. 2. Make the students understand the software concepts. 3. Recognise the software concepts. 4. Understand the Consistency of specification. 5. Gain knowledge about software design. 6. Demonstrate an ability to use the techniques and tools necessary for engineering practice
28.	18UCAC5Q	Core Course - XII: Mobile Application Development Lab	1. Ability to apply general programming knowledge in the field of developing mobile applications. 2. Understanding of the specific requirements, possibilities and challenges when developing for a mobile context. 3. Understanding of the interactions between user interface and underlying application infrastructure. 4. Capacity to plan and carry out a design work including developing a prototype that can be evaluated with a specified

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			user group. 5. Develop the practical skills and knowledge to construct software for a mobile application. 6. Find out the demands in collaborative software development.
29.	18UCAC53	Core Course -XIII: Computer Networks and Security	1. Comprehend the use of computer networks. 2. Recognize the functions soft network layers. 3. Evaluate the services and features of the various layers in the protocol stack. 4. Realize design issues in Network Security. 5. Understand security threats, security services. 6. Aware of the basic concept of Multiplexing.
30.	18UCAO51	Major Elective Course -II: Fundamentals of Data Structures and Algorithms	1. Describe stack, queue and linked list operation. 2. Understand concepts about searching and sorting techniques. 3. Establish Knowledge of tree and graphs concepts. 4. Implement and know knowledge of tree and graphs concepts. 5. Understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structure. 6. Apply algorithm analysis techniques to evaluate the performance of an algorithm.

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31.	18UCAO52	Major Elective Course -II: Cyber Security	1. Learn the basic functionality of networking. 2. Understanding the concept of legal, social and professional issues in networking technology. 3. Know the information security issues in cryptography. 4. Understanding the various concepts of networking securities. 5. Apply the concepts and theories of networking to various situations, classifying networks, analyzing performance and implementing new technologies. 6. Explain the concepts of confidentiality, availability and integrity in Information Assurance, including physical, software, devices, policies and people.
32.	18UCAO53	Major Elective Course – II: Soft Computing	1. Gain knowledge of soft computing techniques and also their use in some real life situations. 2. Solve the problems using neural networks techniques. 3. Find the solution using different fuzzy logic techniques 4. Use the genetic algorithms for different modelling 5. Integrate the various soft computing techniques 6. Be familiar with Learning Process and Learning Task, Supervised Learning – Single and Multi Layer Network, Associative Memory.
33.	18UCAS5P	Skill Based Course - II: Accounting Package Lab	1. Improve the knowledge of accounts. 2. Know the basic concepts of purchase & sales.

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			3. Understand the ledger creation. 4. Gain knowledge on various tax creations.
34.	18UCAS5Q	Skill Based Course - III: Python Programming Lab	1. Understanding of the compilation process. 2. Write, test, and debug simple Python programs. 3. Implement Python programs with conditionals and loops. 4. Execute basic concepts in Pygame.
SEMESTER – VI			
35.	18UCAC61	Core Course - XIV: Operating System	1. Gain knowledge of the mechanisms of OS to handle processes and threads and their communication. 2. Understand the concepts of concurrency mechanism. 3. Awareness on memory management concepts. 4. Recognize a process is and how processes are synchronized and scheduled. 5. Know the components and management aspects of Real time, Mobile operating Systems. 6. Acquaintance Mutual exclusion algorithms, Deadlock detection algorithms and agreement protocols.
36.	18UCAC62	Core Course - XV: Advanced Computing Techniques	1. Gain knowledge of the basic architecture of mobile computing. 2. Find out the basic operating system. 3. Understand the connectivity of networks. 4. Learn training, validation and verification of Gateways. 5. Realize the Concept of Grid computing techniques.

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			6. Recognize the concept of Cloud Architecture.
37.	18UCAC63	Core Course - XVI: Computer Graphics and Multimedia	1. Know about various drawing Algorithms in Computer Graphics. 2. Provide comprehensive introduction about computer graphics system. 3. Gain the knowledge about graphics hardware devices and software. 4. Provide introduction about two dimensional transformations in computer graphics system. 5. Make the students familiar with techniques of clipping Algorithms. 6. Involved in design, development and testing of modelling, rendering, shading
38.	18UCAC6P	Core Course – XVII: Computer Graphics Lab	1. Train in Graphics programs. 2. Familiar with various Graphics techniques. 3. Know about Drawing Algorithms in Computer Graphics. 4. Provide comprehensive introduction about computer graphics system
39.	18UCAJ6P	Core Course - XVIII: Project and Viva Voce	1. Understand established techniques of project report development. 2. Acquire practical knowledge within the chosen area of technology for project development. 3. Identify, analyze, formulate and handle programming

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			projects with a comprehensive and systematic approach. 4. Contribute as an individual or in a team in development of technical projects.
40.	18UCAO61	Major Elective Course - III: Fundamentals of Data mining and Bioinformatics	1. Interpret the results of data mining algorithms. 2. Ability to choose and appropriate methods of data mining. 3. Prepare data for computer analysis. 4. Gain a solid foundation on basic concepts and recent trends in Data mining. 5. Illustrate the contents and properties of the most important bioinformatics databases. 6. Predict the secondary and tertiary structures of Gene sequences.
41.	18UCAO62	Major Elective Course -III: Big Data Analytics	1. Model and implement efficient big data solutions for various application areas using appropriately selected algorithms and data structures. 2. Analyze the methods and algorithms, to compare and evaluate them with respect to time and space requirements, and make appropriate design choices when solving real-world problems. 3. Motivate and explain trade-offs in big data processing technique design and analysis in written and oral form. 4. Explain the Big Data Fundamentals, including the evolution of Big Data, the characteristics of Big Data and the challenges introduced.

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			5. Apply non-relational databases, the techniques for storing and processing large volumes of structured and unstructured data, as well as streaming data. 6. Be relevant with the novel architectures and platforms introduced for Big data, in particular Hadoop and Map Reduce.
42.	18UCAO63	Major Elective Course - III: Introduction to Internet of Things	1. Understand the vision of IOT. 2. Use of Devices, Gateways and Data Management in IOT. 3. Building state of the art architecture in IOT. 4. Design some IOT based prototypes. 5. Understand the technology and standards relating to IOTs. 6. Build and test a complete working IOT system.
43.	18UCAS6P	Skill Based Course – IV: Virtual Gaming Lab	1. Learn the basic architecture of Game creation. 2. Knowledge the basic of Animation. 3. Educate the concept of moving Objects. 4. Perceptive the collision in game.
44.	18UCAV6Q	Value Based Course – II: Linux Shell Programming Lab	1. Mastery of the basic UNIX process structure and the UNIX file system. 2. Understand all the UNIX utilities, and implement shell Scripting. 3. Familiarity with Inter process Communication using pipes, shared memory, semaphores and messages. 4. Train programmatically to implement simple OS mechanisms.