**Bachelor in Computer Application(BCA)**

**About the Department**

The Department of Computer Application strives to provide a intellectual environment that fosters the search for new knowledge in highly dynamic computing world through its quality education.

* The Department was established in the year 2009.
* In BCA there were total 50 seats out of which 25 are subsidized and 25 are non-subsidized.

**Program Outcomes :- BCA**

**PO1.** Focus on preparing student for roles pertaining to computer applications and IT industry.

**PO2.** Start from basics and in every semester learns and everything about computers.

**PO3.** Learn programming languages such as C,C++,SQL,HTML,VB etc .

**PO4.** Gives overview of the topics in IT like networking , computer graphics, web development ,trouble shooting and hardware and software skills .

**PO5**  To train future industry professionals.

**PO6** To impart comprehensive knowledge with equal emphasis on theory and practical.

**PO7**. The program enhances analytical , managerial and communication skill besides inculcating the virtues of self- study.

**PO8.** To develop abilities for data analysis and interpretation using ICT.

**PO9.** To develop the foundation for higher studies in the field of Computer Application.

**PO10.** The BCA course aims at inculcating essential skills as demanded by the global software industry through interactive learning process. This also includes team- building skills, audio-visual presentation and personality programs.

**Course Outcomes 0f Bachelor in Computer Application (BCA)(Session 2016-17 )**

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| **Code** | **Course Name** | **Course Objective** |
| BCA0101 | Mathematics –I | Familiar with Determinants and Matrices.  Formulate limit ,Continuity and differentiability.  Apply knowledge of mathematics , science and engineering.  Demonstrate a working knowledge Definite and Indefinite Integrals .  Reason mathematically about basis discrete structure such as numbers, sets ,used in computer science. |
| BCA0102 | Applied English | To develop the student’s ability to use English language accurately and effectively in day to day life by enhancing their ability of correspondence and improving their writing fliar.  The course focuses upon day today usage of English as a medium of communication. |
| BCA0103 | Computer Fundamental | Familiar with part of computer  Understand the input and output devices.  Basic ideas of storage devices , computer Networks and Operating System |
| BCA0104 | C Programming | Analyze a given problem and develop an algorithm to solve the problem.  Improve upon a solution to a problem.  Use ‘C’ language constructs in the right way.  Design , develop and test programs written in ‘C’.  Use different data types in a computer program.  Use different data types in computer program.  Design programs involving decision structures, loops and functions.  Understand the dynamic of memory by the use of pointer and structure. |
| BCA0105 | Office Automation | To prepare student in understanding ICT basics and to make aware of Office automation using MS-Office. |
| BCA0104(P) | C Programming Lab-I | To Train students with basic concepts of Programming using C. |
| BCA0105(P) | Office Automation Tools  Lab –II | To |

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| **Code** | **Course Name** | **Course Objective** |
| BCA0201 | Mathematics –II | Mastering in basic set theory  Familiar with prepositional calculus. |
| BCA0202 | Communicative English | The course has been developed and planned to enhanced the communication skilled of student it comprises of topics that are relevant to understand the proper speech-sound system of English(Phonetics) and its correct usage at different points of time such as GD’S , Presentation, Meeting ,Seminars etc. |
| BCA0203 | Digital Electronics | Perform conversions among different number system, became familiar with basic logic gates and understand Boolean algebra and simplify simple Boolean Functions by using basic Boolean properties & design of combinational circuits such as MUX, DEMUX, Encoder etc  Understanding the design of sequential Circuits such as Flip-Flop ,Registers and Counters. |
| BCA0204 | Data Structure | To access how the choices of data structure & algorithm methods impact the performance of program.  To solve problems based upon different data structure & also write programs.  Choose an appropriate data structure for particular problem. |
| BCA0205 | Data Base Management System | Give an introduction about DBMS, data Models, a schema , E-R diagram , relational data base and Benefits of database.  Students are able to design a good database using normalization, decomposition and functional dependency.  Understand the basic concepts of PL/SQL programming , cursors, triggers etc.  Learn about indexes, sequences , data integrity, creating and maintaining tables ad user privileges. |
| BCA0204(P) | Data Structure Lab-III | Know about the basis concepts of functions, array and linked list.  Understand how several fundamental algorithms work particularly those concerned with Stack , queues , trees and various sorting algorithms |
| BCA0205(P) | Data Base Management System Lab-IV | To practically train students in using databases with MS-Access |

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| **Code** | **Course Name** | **Course Objective** |
| BCA0301 | Mathematics –III | Knowing about complex numbers ,their representation in a plane, De-Moivre’s Theorem and roots of complex numbers. |
| BCA0302 | Business Practices and Management | To familiarize the students with the basic Business Management concepts and process. |
| BCA0303 | Computer Organization | Able to find the various instruction type and addressing modes used for programming .  Able to know various functionalities and organization of processor units and their types.  Knowing computer arithmetic algorithm in singed magnitude data with hardware implementation an hardware algorithm. |
| BCA0304 | Object Oriented Programming in C++ | To train students in programming using object Oriented Programming with C++. |
| BCA0305 | Desktop Publishing and Designing | Understand the concept of pagemaker, photoshop various types of printing. |
| BCA0304(P) | Object Oriented Programming with C++ Lab-V | To practically train students in developing programming and logical skills using C++ programming language. |
| BCA0305(P) | Desktop Publishing and Designing Lb-VI | Understanding the various techniques and steps used for editing the photo and designing logo, prospectus etc, |

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| **Code** | **Course Name** | **Course Objective** |
| BCA0401 | Personal Management | This subject specifically describe the management at personnel level i.e. middle level management |
| BCA0402 | Accounting | To understand Accounting Standards.  To understand the formation of Public Limited Company having Share Capital.  To develop various types of Financial Statements. |
| BCA0403 | System Analysis and Design | Understand System Development Life Cycle.  Develop system proposal.  Apply different application development methodologies like OOAD.  Evaluate software quality and productivity. |
| BCA0404 | Internet Technology & Web Page Design | Students will be able to write well formed /valid XML document.  Knowledge about creating tables , images adding graphics , frames ,HTML, CSS etc.  To prepare students in web designing using various web tools. |
| BCA0405 | Programming in Visual Basic | Know the working environment of visual basic using control structure.  Understanding the module, components and menu editor and its concept in a simple manner.  Analyze a controls such as text box, rich text box and etc. write coding easily. |
| BCA0404(P) | Internet Technology & Web Page Design  Lab-VII | To understand HTML language and prepare offline website .  To make student familiar with internet and HTML Script and CSS. |
| BCA0405(P) | Programming In Visual Basic Lab-VIII | To understand VB and try to create a small project using VB . |

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| **Code** | **Course Name** | **Course Objective** |
| BCA0501 | Operating System | Understanding and learning of different types of operating system alongwith concept of file system and CPU Scheduling algorithms used  Provide students knowledge of memory management and deadlock handling algorithms.  Implement various algorithms required for management ,scheduling ,allocation and communication used in Operating System. |
| BCA0502 | e-commerce | Understand the concept of E-commerce and Business Strategy in Electronic age and different models of E-commerce.  Determine the protection methods from public policy issues. |
| BCA0503 | Management Information System | Students would be able to understand the usage of MIS in organization and the constituents of the MIS.  This course apply the better understanding of how various information systems like DBMS work together to accomplish the information objectives of an organization. |
| BCA0504 | ASP.Net technologies | To impart the knowledge of web development in students in by using ASP.net.  To prepare students to acquire knowledge of creating interactive websites using ASP.Net. |
| BCA0505 | Computer Oriented Statistical Methods | Knowing about different types of distributions  Estimate different distribution  Organize, manage and present data.  Analyze statistical data graphically using frequency distributions and cummulative frequency distributions.  Analyze statistical data using measures of central tendency, dispersion and location.. |
| BCA0504(P) | ASP.Net technologies Lab-IX | To Practically train students in developing web pages using ASP.Net.  Design Web Application |
| BCA0505(P) | Computer Oriented Statistical Methods Lab-X | Analyze Statistical data using MS-Excel.  Use different distributions to solve simple practical problems. |

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| **Code** | **Course Name** | **Course Objective** |
| BCA0601 | Computer Networks | Recognize the different internetworking devices and their functions.  Explain the role of protocol in networking.  Analyse the services and features of the various layers of data network. |
| BCA0602 | Numerical Methods | To develop the mathematical skills of the students in the areas of numerical methods.  To teach theory and applications of numerical methods in a large number of statistical problems .  To lay foundation of computational mathematics for post graduate courses specialized studies and research. |
| BCA0603 | Multimedia Technology | To identify the range of concepts ,techniques and tools for creating and editing the interactive multimedia application.  To understand the characteristics of different media, representation of different multimedia data and its formats .  To be able to design and develop multimedia systems according to the requirements of multimedia applications. |
| BCA0604 | Computer Graphics | Students will create interactive graphics application using C++ using one or more graphics.  Students will demonstrate an understanding of contemporary graphics hardware.  Students will write program functions to implement graphics primitives. |
| BCA0605 | Software Engineering | Understand the importance of the stages in the software life cycle .  Understand the various process models.  Be able to design software by applying the software engineering principles. |
| BCA0604(P) | Computer Graphics Lab-XI | Understand the basis concept of Computer Graphics.  Applying clipping and filling techniques for modifying an object.  Understand the practical implementation of Modelling ,rendering , reviewing of object in 2D. |
| BCA0605(P) | Major Project | Students in the final semester of BCA need to complete a Major Project as part of their curriculum before they graduate. In the 6th semester the student has to develop one project, which will be evaluated by the external examiner on the following basis:  1. Project Report 10 Marks (To be evaluated externally)  2. Seminar 15 Marks (To be evaluated internally)  3. Viva Voce 25 Marks (To be evaluated externally) |

**Scheme of Examination for BCA**

The pass percentage in each subject will be 40%.

1. **Theory Papers:** For Regular students each paper will be of 100 marks (70 marks for End Semester Examination and 30 marks for Continuous Comprehensive Assessment)
2. **Continuous Comprehensive Assessment (CCA)** accounting for 30% of the final grade that a student gets in a course.
3. **End-Semester Examination (ESE)** accounting for the remaining 70% of the final grade that the student gets in a course.

**The question paper for the ESE may have any one of the following patterns:**

**Part A**

Fifteen objective type questions (MCQ / True or False / fill in the blanks etc.) for 1 mark each. **15 × 1= 15 marks**

**Part B**

Ten short answer (25 words) type questions for 2 marks each. **10 × 2 = 20 marks**

**Part C** Ten questions of Medium Length Answer type (50 words) for 4 marks each of which five will have to be answered.  **5× 4 = 20 marks**

**Part D**

Three questions of long answer (400 words) type, of which one is to be attempted for 15 marks. **15 × 1 = 15 marks**

**Total marks (A + B + C + D) 15+ 20 + 20 +15 = 70 marks.**