

TEACHING AND EXAMINATION SCHEME FOR

BACHELOR IN COMPUTER APPLICATIONS I YEAR

Paper Name (Theory)	Lec	Exam Hours	Min Marks	Max Marks
BCA – 01 Management and Accounting	3	3	18	50
BCA – 02 Computer Fundamentals	3	3	18	50
BCA – 03 PC Software	3	3	18	50
BCA – 04 Fundamentals of C Programming	3	3	18	50
BCA – 05 Data Structure and Algorithm	3	3	18	50
BCA – 06 Multimedia Basic	3	3	18	50
Total of Theory				300

Paper Name (Practical)	Prac	Prac Hours	Min Marks	Max Marks
BCA – 07 PC Software Laboratory	3	3	18	50
BCA – 08 C Programming Laboratory	3	3	18	50
BCA – 09 Multimedia, Tally	3	3	18	50
Total of Theory				150
Grand Total of Theory + Practical				450

Note:

- The question paper will be divided into 3 parts:

Part A:

- 10 Questions of 1.5 mark each – 15 marks
- Answer should not exceed more than 50 words
- All questions are compulsory

Part B:

- 5 Questions of 3 marks each – 15 marks
- Answer should not exceed more than 50 words
- All questions are compulsory

Part C:

- 3 Questions of 7 + 7 + 6 marks – 20 marks.
 - There will be an internal choice in each question.
 - Answer should not exceed 400 words
- A Laboratory Exercise File should be prepared by each student for each practical paper and should be submitted during practical examinations.
 - One internal and one external examiner shall conduct two practical exams, in a day, of a batch of 40 students.
 - Duration of practical exam is 3 hours.
 - One internal and one external examiner shall conduct two practical exams, in a day, of a batch of 40 students.
 - Practical of 50 marks distribution is as under:
 - 30 marks for practical examination exercise for 3 questions.
 - 10 marks for Viva-voce
 - 10 marks for Laboratory Exercise File.

BACHELOR IN COMPUTER APPLICATIONS SCHEME OF EXAMINATION

The number of paper and the maximum marks for each paper together with the minimum marks required for a pass are shown against each subject separately. It will be necessary for a candidate to pass in the theory part as well as the practical part of a subject/paper, wherever prescribed, separately.

Classification of successful candidates shall be as follows:

First Division	60%	}	of the aggregate marks prescribed at Part I Examination, Part II Examination, Part III Examination, taken together
Second Division	48%		

All the rest shall be declared to have passed the examination, if they obtain the minimum pass marks in each subject viz. 36% no division shall be awarded at the Part I and Part II examination.

Note:

Eligibility for admission in First Year of BCA is 10+2 examination of any board with at least 50% marks. As regards admission on reserved category seats government rules will be applicable.

BCA – 01 MANAGEMENT AND ACCOUNTING

Introduction to Management thought, functions, skills of a manager. Overview of Management functions with reference to planning process, leadership, motivation-implication for managers, theories of motivation.

Communication: Process, barriers to communication, role of electronic media and information technology in communication.

Cross-cultural issues in management, social and environmental responsibility

Organizational culture, individual perception, values, attributes, interpersonal effectiveness, power and politics, conflict management, team and group processes

Stress management: Various types of stress, coping mechanism

Accounting: Definition, concepts, standards, basic accounting, entries, ledger, triple column cash book, brief understanding of final accounts, Automatic Accounting processes.

Financial statements, ratio analysis

Cost accounting – CVP analysis, BEP and P/V graph

Budgeting: Meaning of budgeting, flexible and fixed budgets.

BCA – 02 COMPUTER FUNDAMENTALS

Introduction to Computer: Definition, Characteristics, Classification of Computers, Analog Computers, Digital Computers, Hybrid Computers, Classifications of computer on the basis of size and speed, different type of computers, generation of computers.

Computer keyboard, pointing devices, mouse, track ball, touch pad, joystick, touch – sensitive screens, pen – based systems, digitizer, data scanning devices, optical recognition systems, bar code readers, optical mark readers, optical scanners, drum scanners, hand scanner, flatbed scanner, web camera, game pad, digital camera.

Hard copy devices: Printer, impact printers, daisy wheel, dot matrix printer, line printer, chain printers, comb printers, non-impact printers, DeskJet, inkjet printers, laser printer, thermal transfer printer, barcode printers.

Computer Display: CRT, LCD, projection displays, plasma display panel, display standard, monochrome display adapter, HGA, CGA, EGA, VGA, MGA, SVGA, XGA, QVGA, SXGA, UXGA

Introduction to memory, classifications, random-access memory, volatile memory, non-volatile memory, flash memory, read-only memory, secondary memory, the cache memory, auxiliary storage memory, memory hierarchy, storage devise, magnetic tape, magnetic disk, floppy disk, hard disks, CD, DVD, magneto-optical.

Number system, binary, octal, hexadecimal, addition, subtraction, multiplications, computer code: BCD, ASCII, EBCDIC code, Excess-3 code, gray code, software, User interface, system software, programming software, application software logic gates and Boolean algebra representation and simplifications by kMap.

Computer Viruses: Introduction, history, types of computer viruses, classification of viruses ways to catch a computer virus, symptoms of a computer virus.

Application of computer: Desktop publishing, sports, design and manufacturing research and design, military, robotics, planning and management, marketing, medicine and health care, arts, communications, scientific, education.

Introduction of internet, history, IP, TCP and UDP, application protocol, world wide web, how the web works, web standards, website, overview, types of websites, electronic mail, internet, e-mail header, saved message file extension, messages and mailboxes, introduction to intranet, uses, advantages, disadvantages.

Introduction to data warehouse, components of a data warehouse, different methods of storing data in a data warehouse, advantages of using data warehouse

BCA – 03 PC SOFTWARE

MS-Windows: Introduction to MS Windows, concept of GUI, windows explorer, control panel, accessories, running applications under MS Windows.

MS-Word: Introduction to MS-Word, standard toolbar, word-wrap, text formatting, formatting of paragraphs, applying effects to text, applying animation to text, mail merge.

MS-Excel: Introduction to MS-Excel, working with toolbars, formatting, formulae, data management, graphs, charts, macros and other additional functions.

MS-PowerPoint: Introduction to PowerPoint slide creation, slide show, adding graphics, formatting, customizing and printing.

MS-Access: Introduction, understanding databases, creating a database and tables automatically, creating and customizing a form, adding, editing, sorting and searching of records, creating and printing reports, queries, creating a database and application, linking importing and exporting data, form, creating reports, creating charts and pivot tables.

BCA – 04 FUNDAMENTALS OF ‘C’ PROGRAMMING

C Language: Types, operators and expressions, variable names, data types and sizes, constants, declarations, operator, expressions and type conversions.

Control flow: Statements and blocks, selection and loops structures, break, continue, branching and labels.

Functions and program structure: Basics, functions and their arguments, external variables and static variables, scope rules, register variables, block structures, initialization, recursion.

Pointers and arrays: Pointers and addresses, pointers and function arguments, pointers and arrays, address arithmetic, character pointers and functions, multi-dimensional arrays, pointers arrays, pointer to functions.

Structures: Basics, structures and functions, arrays of structures, pointers to structures, unions and typedef.

File handling, file function.

BCA – 05 DATA STRUCTURE AND ALGORITHMS

Fundamental Notations: Primitive and composite data types, time and space complexity of algorithms.

Data structures: Arrays, stacks, queues, D-Queue, linked lists, single link list, double link list, trees and graphs, depth first search, breath first search, kruskal algorithms, prism algorithm, prefix, postfix, infix, in-order, pre-order, post-order, recursive functions.

File structures: Concepts of fields, records and files, sequential file organization

ISAM, hashing techniques, inverted lists and multi-lists

Sorting: Internal and external sorting, quick sort, merge sort, bubble, insertion, selection sorting.

Searching techniques: Linear and binary search, merging algorithms

BCA – 06 MULTIMEDIA BASICS

Introduction to Multimedia technology – computer, communications and entertainment; framework for multimedia systems: Advantages of MM, system components and the user interface, MM platform, hardware software, commercial tools and standard.

Images and applications, image capture, compression, standards, audio compression and decompression, audio synthesis, MIDI, speech recognition and synthesis, video capturing, compression and decompression, digital video and image compression; jpeg image compression standards; mpeg motion video compression; DVI technology; time-based media representation and delivery

Developing Applications, methodology, design, multimedia object sharing multimedia and multimedia and the law

Application of Multimedia: Intelligent Multimedia system, training and education, kiosks, multimedia in office and home.

Build HTML, documents from scratch, view HTML, document using a variety of Web browsers organize information using lists, use HTML, frames and tables for page layout, connect to a variety of resources by using hypertext links, create style sheets to format the look and feel of the pages, understand key image theory concepts, create new images from scans or from scratch, optimize image sizes, create animated gifs and transparent images, be able to create graphical elements for use on web pages: buttons banners navigation bars, background titles, embed images and other multimedia.