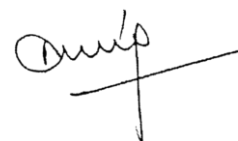


**BACHELOR OF COMPUTER APPLICATION**  
**(B.C.A.)**  
**COURSE STRUCTURE**  
**FIRST YEAR**

**I SEMESTER**

Paper Code	Paper Name	Term Exam Max./Min. Marks	Internal Assessment Max./Min. Marks	Total Max./Min. Marks
C-101	Computer Fundamentals and MS-Office	50/20	50/20	100/40
C-102	Introduction to Programming using C	50/20	50/20	100/40
C-103	Business Communication and Soft Skill	50/20	50/20	100/40
C-104	Introduction to HTML- CSS-XML	50/20	50/20	100/40
C-105	Mathematics- I	50/20	50/20	100/40
C-106	Practical based on above Papers			100/40
Total marks of I Semester				600/300



# BACHELOR OF COMPUTER APPLICATION (B.C.A.)

## DETAILED SYLLABUS

### FIRST SEMESTER

### PAPERCODE: C-101

## Computer Fundamentals and MS-Office

#### UNIT-I

**Introduction to Computers:** Introduction, Characteristics of Computers, Block diagram of computer. Types of computers and features, Mini Computers, Micro Computers, Mainframe Computers, Super Computers. Types of Programming Languages (Machine Languages, Assembly Languages, High Level Languages). Data Organization, Drives, Files, Directories. Types of Memory (Primary And Secondary) RAM ROM, PROM, and EPROM. Secondary Storage Devices (FD, CD, HD, Pen drive) I/O Devices (Scanners, Plotters, LCD, Plasma Display) Number Systems Introduction to Binary, Octal, Hexadecimal system Conversion, Simple Addition, Subtraction, Multiplication.

#### UNIT-II

**Algorithm and Flowcharts**  
**Algorithm:** Definition, Characteristics, Advantages and disadvantages, Examples  
**Flowchart:** Definition, Define symbols of flowchart, Advantages and disadvantages, Examples

#### UNIT-III

Operating System and Services in O.S., DOS, History, Files and Directories, Internal and External Commands, Batch Files, Types of O.S.

#### UNIT-IV

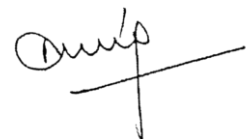
Windows Operating Environment Features of MS-Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories, Notepad, Paintbrush.

#### UNIT-V

Editors and Word Processors Basic Concepts, Examples: MS-Word, Introduction to desktop publishing. Spreadsheets and Database packages Purpose, usage, command, MS-Excel, Creation of files in MS-Access, Switching between application, MS-PowerPoint.

#### Suggested Books:

1. Fundamental of Computers, By V.Rajaraman B.P.B. Publications
2. Fundamental of Computers, By P.K. Sinha
3. MS-Office 2000 (For Windows), By Steve Sagman
4. Computer Networks, By Tannenbaum Tata MacGraw Hill Publication



# BACHELOR OF COMPUTER APPLICATION (B.C.A.)

## DETAILED SYLLABUS

### FIRST SEMESTER

### PAPERCODE: C-102

## Introduction to Programming using C

### UNIT-I

**C basics:** C character set, Identifiers and keywords, Data types, constants, variables and arrays, declarations, expressions statements, symbolic constants, compound statements ,arithmetic operators, unary operators, relational and logical operators, assignment operators, conditional operators, bit operators.

### UNIT-II

**Decision Control Structures:** If Statement, If-else statement, Nested if (), If () ladder, Switch, case statement, Iterative statements: For loop, While loop, Do-while() loop, Conditional statements: Break, Continue, Storage Classes, Array: Declaration of an Array, Initialization of Array, Types of Array: Single Dimension Array, Two-Dimensional Array, Address Calculation of an Element of a 2-D Array

### UNIT-III

**Functions:** Library Functions, User Defined Functions, Function Declaration, Prototype Declaration, Types of Arguments: Actual Arguments, Formal Arguments, Function Definition, Passing Arrays as Parameters, Methods to Call a Function: Call by Value, Call by Reference.

### UNIT-IV

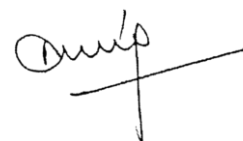
**String & Pointers:** **String:** Definition, function of string and Maths Functions (Predefined Functions) **Pointers:** Declaration of Pointer Variables, Pointer Arithmetic, Returning Multiple Output Values through a Function Strings. Introduction to dynamic memory allocation (malloc, calloc, realloc, free)

### UNIT-V

Structures, Unions, Array of Structures, Enumerations, File Handling: Opening a File, Closing a File, File, Opening Modes, Reading from and Writing to a File, Copying Content of an Existing File to another, Command Line Arguments, argc and argv Parameters, Pre-processor Directives.

### Suggested Books:

1. E.Balagurusamy, "Programming in ANSI C", TMH
2. PeterNorton's, "Introduction to Computers", TMH
3. YashwantKanetkar, "Let us C", BPB



# BACHELOR OF COMPUTER APPLICATION (B.C.A.)

## DETAILED SYLLABUS

### FIRST SEMESTER

### PAPER CODE: C- 103

## Business Communication and Soft Skills

### UNIT-I

**Means of Communication:** Meaning and Definition, Process, Functions, Objectives, Importance, Essentials of good communication, Communication barriers, 7C's of Communication, Types of Communication: Meaning, nature and scope.

### UNIT-II

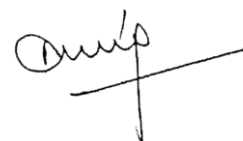
**Oral communication:** Principle of effective oral communication Techniques of effective speech, Media of oral communication (Face to face conversation, Teleconferences, Press Conference, Demonstration, Radio Recording, Dictaphone, Meetings, Rumour, Demonstration and Dramatisation, Public address system, Grapevine, Group Discussion, Oral report, Closed circuit TV). The art of listening, Principles of good listening. **Written Communication** Purpose of writing, Clarity in Writing, Principle of Effective writing, Writing Techniques, Electronic Writing Process. **Business Letters & Reports:** Need and functions of business letters, Planning & layout of business letter, Kinds of business letters, Essentials of effective correspondence, Purpose, Kind and Objective of Reports, Writing Reports.

### UNIT-III

**Drafting of business letters:** Enquiries and replies, Placing and fulfilling orders, Complaints and follow up Sales letters, Circular letters Application for employment and resume. **Information Technology for Communication:** Word Processor, Telex, Facsimile(Fax), E-mail, Voice mail, Internet Multimedia, Teleconferencing, Mobile Phone Conversation, Video Conferencing, SMS, Telephone Answering Machine, Advantages and limitations of these types. **Self Analysis:** SWOT Analysis, Who am I, Attributes, Importance of Self Confidence, Self Esteem. Creativity: Out of box thinking, Lateral Thinking.

### UNIT-IV

**Attitude:** Factors influencing Attitude, Challenges and lessons from Attitude, Etiquette. **Motivation:** Factors of motivation, Self talk, Intrinsic & Extrinsic Motivators. **Goal Setting:** Wish List, SMART Goals, Blueprint for success, Short Term, Long Term, Life Time Goals. **Interpersonal Skills:** Gratitude: Understanding the relationship between Leadership Networking & Team work. Assessing Interpersonal Skills Situation description of Interpersonal Skill. **Team Work:** Necessity of Team Work Personally, Socially and Educationally.

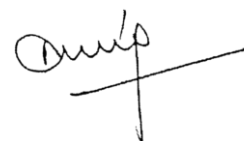


## UNIT-V

**Leadership:** Skills for a good Leader, Assessment of Leadership Skills, Stress Management: Causes of Stress and its impact, how to manage & distress, Circle of control, Stress Busters. Emotional Intelligence: What is Emotional Intelligence, emotional quotient why Emotional Intelligence matters, Emotion Scales, Managing Emotions. **Conflict Resolution:** Conflicts in Human Relations – Reasons Case Studies, Approaches to conflict resolution. Decision Making: Importance and necessity of Decision Making, Process and practical way of Decision Making, Weighing Positives & Negatives.

### Suggested Books:

1. Business Communication, "K.K.Sinha, Galgotia Publishing Company, New Delhi".
2. Media and Communication Management, "C.S. Rayudu, Hikalaya Publishing House, Bombay".
3. Essentials of Business Communication, "Rajendra Pal and J.S. Korhalli, Sultan Chand & Sons, New Delhi".



# BACHELOR OF COMPUTER APPLICATION (B.C.A.)

## DETAILED SYLLABUS

### FIRST SEMESTER

### PAPERCODE: C-104

## Introduction to HTML, CSS- XML

#### UNIT-I

Basics of Internet and Web The basics of Internet, World Wide Web, Web page, Home page, Web site, Static, Dynamic and Active web page, Overview of Protocols, Simple Mail Transfer Protocol, Gopher, Telnet, Emails, TFTP, Simple Network Management Protocol, Hyper Text Transfer Protocol, Client server computing concepts. Web Client and Web Server Web Browser, Browsers e.g., Netscape navigator, Internet Explorer, Mozilla Firefox, Client, Side Scripting Languages, VB Script and Java Script, Active X control and Plug-ins, Web Server Architecture, Image maps, CGI, API web database connectivity, DBC, ODBC

#### UNIT-II

Dynamic HTML, Document Object Model, Features of DHTML, CSSP (Cascading Style Sheet Positioning) and JSSS (JavaScript assisted Style Sheet), Layers of Netscape, The ID Attribute, DHTML Events

#### UNIT-III

**Introduction to HTML:** Editors, Basics, Element, Attribute, Headings, Paragraphs, Styles, Formatting, Quotations, Comments, CSS, Links, Images, Tables, Lists, Blocks, Classes, ID, frames, File Paths, Head, Layout, Computer Code, Entities, Symbols, Charset, Color and Background of Web Pages, Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents, Different Section of a Page and Graphics, Footnote and E-Mailing, Creating Table, Frame, Form and Style Sheet.

#### UNIT-IV

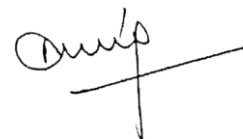
**CSS:** Introduction, Syntax, Colors, Backgrounds, Borders, Margins, Padding, Height/ Width, Box Model, Outline, Text, Fonts, Icons, Links, Lists, Tables, Display, Max, Width, Position, Overflow, Float, Inline, Block, Align, Combinators, Pseudo, Class, Pseudo Elements, Opacity, Navigation Bar, Dropdowns, Image Gallery, Image Sprites, Attr Selectors, Forms, Counters, Website Layout, Units, Specificity.

#### UNIT-V

**XML:** Introduction, Tree, Syntax, Elements, Attributes, Namespaces, Display, HTTP request, Parser, DOM, XPath, XSLT, XQuery, XLink, Validator, DTD, Schema, Server

#### Suggested Books:

1. Shelley Powers, "Dynamic Web Publishing" 2
2. Html & CSS: The Complete Reference 5th Edition (English, Paperback, Thomas A. Powell)
3. XML: The Complete Reference Book by Heather Williamson



# BACHELOR OF COMPUTER APPLICATION (B.C.A.)

## DETAILED SYLLABUS

### FIRST SEMESTER

### PAPERCODE: C-105

## Mathematics -I

#### UNIT-I

**Determinants:** Definition, Minors, Cofactors, Properties of Determinants **MATRICES:** Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices, Adjoint, Inverse, Cramer's Rule, Rank of Matrix, Dependence of Vectors, Eigen Vectors of a Matrix, Cayley-Hamilton Theorem (without proof).

#### UNIT-II

**Limits & Continuity:** Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Continuity at a Point, Continuity Over an Interval, Intermediate Value Theorem, Type of Discontinuities

#### UNIT-III

**Differentiation:** Derivative, Derivatives of Sum, Differences, Product & Quotients, Chain Rule, Derivatives of Composite Functions, Logarithmic Differentiation, Rolle's Theorem, Mean Value Theorem, Expansion of Functions (Maclaurin's & Taylor's), Indeterminate Forms, L-Hospital's Rule, Maxima & Minima, Curve Tracing, Successive Differentiation & Leibnitz Theorem.

#### UNIT-IV

**Integration:** Integral as Limit of Sum, Fundamental Theorem of Calculus (without proof.), Indefinite Integrals, Methods of Integration Substitution, By Parts, Partial Fractions, Reduction Formulae for Trigonometric Functions, Gamma and Beta Functions (definition).

#### UNIT-V

**Vector Algebra:** Definition of a vector in 2 and 3 Dimensions, Double and Triple Scalar and Vector Product and physical interpretation of area and volume.

#### Suggested Books:

1. B.S. Grewal, "Elementary Engineering Mathematics", 34th Ed., 1998.
2. Shanti Narayan, "Integral Calculus", S. Chand & Company, 1999
3. H.K. Dass, "Advanced Engineering Mathematics", S. Chand & Company, 9th Revised Edition, 2001.

