The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -101-TH	Core Course	Problem Solving using C	Theory	2	3

Course Objectives:

1. **To introduce the foundations of computing, programming and problem- solving using computers.**
2. **To develop the ability to analyse a problem and devise an algorithm to solve it.**
3. **To formulate algorithms, pseudocodes and flowcharts for arithmetic and logical problems.**
4. **To understand structured programming approach.**
5. **To develop the basic concepts and terminology of programming in general.**
6. **To implement algorithms in the 'C' language.**
7. **To test, debug and execute programs.**

Course Outcomes:

At the end of the course, students will be able to

CO.1 Define algorithms and explain their characteristics

CO.2 Formulate algorithm and draw flow chart to solve a given problem

CO.3 Explain use of appropriate data types, control statements

CO.4 Demonstrate ability to use top-down program design

Unit	Title and Contents	No. of lectures in Clock Hours
1	► 'History of 'C' language. ► Application areas. ► Structure of a 'C' program. ► 'C' Program development life cycle. ► Function as building blocks. ► 'C' tokens ► Character set, Keywords, Identifiers ► Variables, Constants (character, integer, float, string, escape sequences, enumeration constant). ► Data Types (Built-in and user defined data types). ► Operators, Expressions, types of operators, ► Operator precedence and Order of evaluation. ► Character input and output. ► String input and output. ► Formatted input and output ► Decision making structures: - if, if-else, switch and conditional operator. ► Loop control structures: - while do while, for. ► Use of break and continue. ► Nested structures. Unconditional branching (goto statement)	15
2	Functions, Arrays	15

	► **Concept of function, Advantages of Modular design.** ► **Standard library functions.** ► **User defined functions: - declaration, definition,** ► **function call, parameter passing (by value), return statement.** ► **Recursive functions.** ► **Scope of variables and Storage classes.** ► **Concept of array.** ► **Types of Arrays – One, Two and Multidimensional array.** ► **Array Operations - declaration, initialization,** ► **accessing array elements.**	

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	**Marks**	**Methodology**
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -101-PR	Core Course	Computer Laboratory based on C Programming	Practical	2	4

Course Objectives:

1. **Explore and develop the algorithmic approaches to problem solving.**
2. **Understand and implement modular programs using control structures and arrays in 'C'.**
3. **Implement programming logic and also test, debug and execute programs.**
4. **Implement Control the sequence of the program and give logical outputs.**

Course Outcomes:

At the end of the course, students will be able to

CO.1 Explore and develop the algorithmic approaches to problem solving.

CO.2 Understand and implement modular programs using control structures and arrays in 'C'.

CO.3 Implement programming logic and also test, debug and execute programs.

CO.4 Implement Control the sequence of the program and give logical outputs.

Unit	Title and Contents	No. of lectures in Clock Hours
1	**Problem Solving Aspects** ● Compilation process (compilers , interpreters), linking and loading, syntax and semantic errors, testing a program ● Practices (naming conventions, documentation, indentation)	4
2	**'C' Fundamentals**	4
	● 'C' tokens and Character set, Keywords , Identifiers ● character, integer, float, string, escape sequences, enumeration constant. ● Built-in and user defined data types and Operators, Expressions, types of operators, Operator precedence and Order of evaluation.	
3	**Control Structures : Conditional Structures** ● Use of if ,if-else, and. ● Use of Switch case ● Use of conditional operator	2
4	**Control Structures : Loop Control Structures** ● Use of While loop ● Use of Do While loop ● Use of for lo ● Use of break and continue. ● Nested structures and goto statement.	2
5	**Control Structures : Break continue and Nested Loop** ● Use of break and continue. ● Nested structures and goto statement.	2
6	**Functions** ● User defined functions:- declaration , definition, function call, parameter passing (by value), return statement	3

7	**Recursive Functions** **● Use of Recursive functions.**	**2**
8	**Scope of variables** **● Use of Scope of variables** **● Use of Storage classes.**	**2**
9	**One Dimensional Arrays** **One Dimensional Arrays (1D) Operations - declaration, initialization, accessing array elements.**	**3**
10	**One Dimensional Arrays : passing array to function** **● Assignment on Passing 1D arrays to function**	**2**
11	**One Dimensional Arrays : Array Operations** **● Finding maximum and minimum, Counting occurrences, Linear search,**	**4**
12	**One Dimensional Arrays : Sorting and Searching** **● Sorting an array (Simple exchange sort, bubble sort (ie arrange the data in ascending and descending order))**	**2**
13	**Two Dimensional Arrays : Basic Operations** **Two and Multidimensional array(2D) Operations - declaration, initialization, accessing array**	**2**
14	**Two Dimensional Arrays : Passing 2D arrays to functions** **Passing 2D arrays to function. ● Merging two sorted arrays,**	**3**
15	**Two Dimensional Arrays : matrix operations** **● Matrix operations : ▪ Transpose ▪ Addition, ▪ Subtraction ▪ Multiplication ▪ Symmetric, Diagonal/upper/ lower triangular matrix**	**3**

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	**Marks**	**Methodology**
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -102-TH	Core Course	Database Management System	Theory	2	3

Course Objectives:

1. **To make students understand the concept of Database Management System**
2. **To develop Database application**

Course Outcomes:

At the end of the course, students will be able to

CO.1 To understand the basic concepts and the applications of database systems.

CO.2 To formulate Queries using SQL and Relational Formal Query Languages

Unit	Title and Contents	No. of lectures in Clock Hours
1	**1.1 Introduction** ▶ **1.2 Application Of DBMS** ▶ **1.3 Advantages of DBMS**	**15**

	▶ 1.4 Users of DBMS ▶ 1.4.1 Database Designers ▶ 1.4.2 Application Programmer ▶ 1.4.3 Sophisticated Users ▶ 1.4.4 End Users ▶ 1.5 Views of Data ▶ 1.6 Data Models ▶ 1.6.1 Relational Model ▶ 1.6.2 Network Model ▶ 1.6.3. Hierarchical Model ▶ 1.7 Entity Relationship Diagram (ERD) ▶ 1.8 Features of ERD ▶ 1.9 Cases Studies on ER Model ▶ 1.10 Introduction to Relational Model ▶ 1.11 Basic Concepts: Relation, tuple, attribute ▶ 1.12 Key: Super Key, Candidate Key, Primary Key, Foreign Key	
2	SQL (Structured Query Language) ▶ 2.1 Introduction ▶ 2.2 Normalization ▶ 2.2.1 First Normal Form0 ▶ 2.2.2 Second Normal Form ▶ 2.2.3 Third Normal Form ▶ 2.2.4 Boyce - Codd Normal Form ▶ 2.2 Basic Structure ▶ 2.3 DDL Commands ▶ 2.4 DML Commands ▶ 2.5 Simple Queries	15

	▶ **2.6 Constraint (Not NULL, Check, Unique, Default)** ▶ **2.7 Aggregate function (Min, Max, Avg, Count, Sum)** ▶ **2.8 Clause (Group By, Order By, Having)** ▶ **2.9 Nested Queries** ▶ **2.10 Case Study on SQL**	

Assessment and Evaluation
Evaluation will be done on a continuous basis during each Semester

Types of Assessment	**Marks**	**Methodology**
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -102-PR	Core Course	Computer Laboratory based on Database Management System(DBMS)	Practical	2	4

Course Objectives:

1. **To make students understand the concept of Database Management System**
2. **To develop Database application**

Course Outcomes:

At the end of the course, students will be able to

CO.1 To understand the basic concepts and the applications of database systems.

CO.2 To formulate Queries using SQL and Relational Formal Query Languages

Unit	Title and Contents	No. of lectures in Clock Hours
1	DDL Commands (Table Creation)	5
2	DDL Commands (Alter and Drop Table)	4
3	DML Commands(Insert ,Update and Delete)	5

4	**RDB without Constraints**	**4**
5	**Table Creation with Constraints**	**4**
6	**RDB with Constraints**	**3**
7	**Implementation Of Select Command**	**3**
8	**SQL Set operation**	**4**
9	**Joins**	**4**
10	**Case study**	**4**

Assessment and Evaluation
Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	**15**	**Offline Written Examination** **Power Point Presentations** **Assignments / Tutorials** **Oral Examination** **Open Book Test** **Offline MCQ Test** **Group Discussion** **Analysis Of Case Studies**
External	**35**	**Written Examination**

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Mrs Anjali KShirsagar**
Program	**Commerce and Management**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -103-TH	Core Course	Computer Fundamentals and IT Tools	Theory	2	3

Course Objectives:

1. **To make students understand the concept of Computer Fundamental.**
2. **To learn about Hardware peripheral Devices.**
3. **To learn about the Digital Electronics.**
4. **To learn about operating Systems.**

Course Outcomes:

At the end of the course, students will be able to

CO.1 **Understanding the concept of input and output devices of Computers.**

CO.2 **Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.**

CO.3 **Understand an operating system and its working, and solve common problems related to operating systems.**

CO.4 **Study to use the Internet safely, legally, and responsibly.**

CO.5 **To learn to use the applications of MS-Office**

Unit	Title and Contents	No. of lectures in Clock Hours

1	Fundamentals Of Computer Systems 1.1 Brief History of Computers 1.2 Von Neumann Architecture 1.3 Basic Structure of a Computer System ALU (Arithmetic Logic Unit) Memory CPU (Central Processing Unit) I/O (Input/Output) Devices 1.4 Development of Computers Classification: Micro, Mini, Mainframe, Supercomputer, PC, Server, Workstations 1.5 Input Devices Keyboard Direct Entry: Card Readers, Scanning Devices (BAR CODE, OMR, MICR) Voice Input Devices, Light Pen, Mouse, Touch Screen, Digitizer, Scanner 1.6. Output Devices CRT, LCD/TFT Printers: Dot Matrix, Inkjet Plotters: Drum, Flatbed 1.7. Storage Devices Types of Memory: RAM, ROM, PROM, EPROM, EEPROM Memory Types: Base Memory, Extended Memory, Cache Memory Storage Media: Tape, FDD, HDD, CD-ROM, Pen Drive 1.8. Data Representation BIT, BYTE, WORD	**8**

	Encoding Systems: ASCII, EBCDIC, BCD Code, Unicode	
2	Fundamentals of Digital Electronics 2.1 Introduction to Number Systems Binary, Octal, Decimal, Hexadecimal 2.2 Number System Interconversion 2.3 Boolean Algebra 2.4 Signed and Unsigned Number Representation 2.5 1's and 2's Complement 2.6 Binary Arithmetic	**10**
3	IT Tools and Troubleshooting 3.1. Hardware and Software Overview 3.2. Common Troubleshooting Problems Monitor: No Display Keyboard/Mouse Not Responding Monitor Beeps Printer Not Responding Virus Checks Deleting Temporary Files Adjusting Mouse Speed 3.3. Network Monitoring Tools	**4**
4	Introduction to Windows Operating System and Linux Operating System 4.1 Windows Operating System Overview 4.2 Basic Features and Functionalities 4.3 DOS Commands 4.4 Linux Operating System Overview 4.5 Basic Features and Functionalities 4.6 Linux Commands	**8**

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	**Marks**	**Methodology**
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -103-PR	Core Course	Office Automation tools	Practical	2	4

Course Objectives:

- **To make students understand and learn various Office Automation Tools like MSWord, MS Excel & MS PowerPoint.**

Course Outcomes:

At the end of the course, students will be able to

CO.1 The students will be able to use various Office Automation Tools like MSWord, MS Excel & MS PowerPoint.

CO.2 Use of modern office equipment in business or any office is intended to facilitate faster processing and delivery of information, accurate analysis of facts and figures, higher efficiency and productivity, and elimination of fatigue arising from per forming repetitive jobs manually. Office Automation Tools help in Word processing, Worksheet and presentation

Unit	Title and Contents	No. of lectures in Clock Hours
1	**1.1 Introduction** **Concept of Windows, Icon, Menu Desktop** **Creating Folders and Shortcuts Finding Files & Folders Creating, Copying, Moving and Deleting files Windows Explorer** **Basic DOS Commands** **Word Processing Package** **Typing, Editing, Proofing &reviewing Formatting text &Paragraph Automatics Formatting and Styles Working with Tables** **Graphics and Frames Mail Merge**	**15**
2	**Spread sheet package** **1.1 Concept of worksheet Working& Editing in Workbooks Creating Formats & Links** **Protecting and Hiding data** **Built in Functions (Mathematical, Statistical, String &Date)** **Formatting a Worksheet & Creating graphics objects** **Creating Charts (Graphics), Formatting and analyzing data** **Organizing Data in a List (Data Management)** **Sharing & Importing Data Printing** **Presentation Package** **Creating and Editing Slides** **Creating and Editing objects in the slide** **Animation** **Creating and Running Slideshow Templates**	**25**

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	OE-102-STS-TH	Open Elective	Elementary Commercial Statistics-I	Theory	2	3

Course Outcomes:

At the end of the course, students should be able to:

1. Students will understand the key concepts of the theory of attributes and their applications in data classification.
2. Students will analyse relationships between two attributes using different.
3. Students will create and interpret tables for both qualitative and quantitative data, recognizing their advantages and limitations.
4. Students will construct various graphical representations, such as histograms and ogives, to effectively visualize data distributions.
5. Students will classify and summarize data using ungrouped and grouped frequency distributions.
6. Students will compute and evaluate measures of central tendency and understand their respective merits and demerits.

Unit	Title and Contents	No. of lectures in Clock Hours
1	Classification and Tabulation 1.1 Raw data, class frequency, Discrete frequency distribution, Continuous frequency distribution, Inclusive and Exclusive methods of classifications, class limits, class boundaries, mid values, class width, open end class, Cumulative frequencies of less than and more than type. relative frequencies, frequency density. 1.2 Definition and concept of tabulation, objectives of tabulation, Components of table, Advantages and limitation of tabulation. 1.3 Tabulation for quantitative data. 1.4 Definition and concept of tabulation, objectives of tabulation, Components of table, Advantages and limitation of tabulation. 1.5 Numerical problems related to real life situations.	**07**
2	**Graphical Representation** 2.1 Diagrammatic representation of statistical data: simple bar diagram,subdivided bar diagram, multiple bar diagram, pie diagram. 2.2 Graphical representation of statistical data: Line graph, histogram (with and unequal class width) frequency curve, ogive curves. 2.3 Numerical Examples	**06**
3	**Univariate Data Analysis** 3.1 Concept of univariate data. Concept of central tendency, Measures of central tendency. Arithmetic mean: Definition. Computation of arithmetic mean for ungrouped and grouped frequency distribution, Merits and Demerits 3.2 Median: Definition. Computation of median for ungrouped and grouped frequency distribution, Merits and Demerits. Mode: Definition. Computation of mode for ungrouped and grouped frequency distribution, Merits and Demerits. 3.3 Concept of dispersion and measures of dispersion, absolute and relative measures of dispersion. Range and	**10**

	Quartile Deviation: definition for ungrouped and grouped data and their coefficients, merits and demerits. 3.4 Variance and Standard deviation: definition for ungrouped and grouped data, coefficient of variation. 3.5 Numerical problems related to real life situations.	
4	**Bivariate Data Analysis** **4.1** Bivariate data, Scatter diagram and interpretation. Concept of correlation between two variables, positive correlation, negative correlation, no correlation. 4.2 Covariance between two variables: Definition Karl Pearson's coefficient of correlation (r): Definition, computation for ungrouped data and interpretation. Range of correlation coefficient. *i.e.* $-1 \leq r \leq 1$(without proof). 4.3 Concept of dependent and independent variables in regression 4.4 Meaning of regression, difference between correlation and regression, Connection between correlation and regression. **4.5** Fitting of line $Y = a + bX$, a and b are estimated using least square principle method (without proof). Interpretation of regression coefficient. 4.6 Numerical Problems related to real life situations	**07**

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	**Marks**	**Methodology**
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	SEC-101-BBACA-TH	Skill Enhancement Course (SEC)	Programming Principles and Algorithm	Theory	2	3

Course Objectives:

- **To make students understand the concept of Algorithms and Flowchart.**
- **To develop Analytical / Logical Thinking and Problem-Solving capabilities.**
- **To Know the Basics of Programming.**

Course Outcomes:

- **To understand how to use programming in day-to-day Applications.**
- **To apply skills of algorithm and flowchart to solve the businesses problem**

Unit	Title and Contents	No. of lectures in Clock Hours
1	**Introduction** ➢ Concept: Problem solving, Program development cycle ➢ Algorithm, Characteristics of an algorithm ➢ Flowcharts ➢ Simple Examples: Algorithms and flowcharts ○ Addition / Multiplication of integers ○ Determining if a number is +ve / -ve / even / odd ○ Maximum of 2 numbers, 3 numbers ○ Sum of first n numbers, given n numbers, Digit reversing, Palindrome number, Armstrong number ○ Table generation for n, Factorial, Prime number, Factors of a number etc. (Write algorithms and draw flowcharts)	15
2	**Recursion** ➢ Concept: Multiplication, Factorial, Fibonacci series, Permutation Generation ➢ Algorithms using arrays Maximum and minimum of array, reversing elements of an array. ➢ Mean and Median of n numbers ➢ Row major and Column major form of array representation	15

	➢ **Matrices: Addition, Multiplication, Transpose, upper/lower triangular**	

Assessment and Evaluation
Evaluation will be done on a continuous basis during each Semester

Types of Assessment	**Marks**	**Methodology**
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -151-TH	Core Course	Advanced C Programming	Theory	2	3

Course Objectives:

1 To study advanced concepts of programming using the 'C' language.

2 To understand code organization with complex data types and structures.

3 To work with files.

Course Outcomes:

CO.1 Develop modular programs using control structures, function, pointers, arrays, strings and structures

CO.2 Design and develop solutions to real world problems using C.

CO.3 Understand and repeat the sequence of instructions and points for a memory location.

CO.4 Identification, analyzation, development, verify and document the requirements for a computing environment.

Unit	Title and Contents	No. of lectures in Clock Hours
1	**Pointers** ► **1.1. Introduction to Pointers.** ► **1.2. Declaration, definition, initialization, dereferencing.** ► **1.3. Pointer arithmetic.** ► **1.4. Relationship between Arrays & Pointers- Pointer to array, Array of pointers.** ► **1.5. Multiple indirection (pointer to pointer).** ► **1.6. Functions and pointers- Passing pointer to function, Returning pointer from function, Function pointer.** ► **1.7. Dynamic memory management- Allocation(malloc(),calloc()), Resizing(realloc()), Releasing(free()).,** ► **1.8. Memory leak, dangling pointers.** ► **1.9. Types of pointers.**	**8**
2	**Strings** ► **2.1 String Literals, string variables, declaration, definition, initialization.** ► **2.2 Syntax and use of predefined string functions** ► **2.3 Array of strings.** ► **2.4. Strings and Pointers** ► **2.5. Command line arguments.**	**6**

3	**Structures And Unions** ► **3.1. Concept of structure, definition and initialization, use of typedef.** ► **3.2. Accessing structure members.** ► **3.3. Nested Structures** ► **3.4. Arrays of Structures** ► **3.5. Structures and functions- Passing each member of structure as a separate argument, Passing structure by value / address.** ► **3.6. Pointers and structures.** ► **3.7. Concept of Union, declaration, definition, accessing union members.** ► **3.8. Difference between structures and union**	**8**
4	**File Handling** ► **4.1. Introduction to streams.** ► **4.2. Types of files.** ► **4.3. Operations on text files.** ► **4.4. Standard library input/output functions.** ► **4.5. Random access to files.**	**6**
5	**Preprocessor** ► **5.1. Role of Preprocessor** ► **5.2. Format of preprocessor directive** ► **5.3. File inclusion directives (#include)** ► **5.4. Macro substitution directive, augmented and nested macro** ► **5.5. Macros versus functions**	**2**

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -151-PR	Core Course	Computer Laboratory based on Advance C Programming	Practical	2	4

Course Objectives:

1 To study advanced concepts of programming using the 'C' language

2 To understand code organization with complex data types and programming structures.

3 To work with files and its types.

Course Outcomes:

CO.1 Develop modular programs using function, pointers, arrays, strings and structure

CO.2 Design and develop solutions to real world problems using Advanced C programming.

Unit	Title and Contents	No. of lectures in Clock Hours
1	**Pointers : Operations on pointers** ● Pointers - Declaration, ● definition, initialization ● dereferencing ● Pointer arithmetic.	2
2	**Pointers : Pointers and arrays** ● Pointer to array, ● Array of pointers ● pointer to pointer	2
3	**Pointers :pointers and functions** ● Passing pointer to function, ● Returning pointer from function, ● Function pointer	4
4	**Pointers :Dynamic Memory allocation** Dynamic memory management (Allocation) ● malloc(), ● calloc(), ● Resizing(realloc())	2
5	**Pointers : dangling pointers and free** ● Releasing (free ()) ● dangling pointers	4
6	**Strings : basic operations** ● String Literals, string variables, declaration, definition, initialization and Syntax and use of predefined string functions	3
7	**Strings : array of strings & pointers** ● Array of strings and Pointers	4
8	**Structures : Basics**	2

	• Structure, definition and initialization, use of typedef. • Accessing structure members and Nested Structures	
9	Arrays of Structures and functions • Arrays of Structures and functions- Passing each member of structure as a separate argument, • Passing structure by value / address	2
10	Pointers and Structures Use of Pointers and Structures	3
11	Unions Concept of Union, declaration, definition, accessing union members	2
12	Command line arguments : basics •To access command-line arguments • Functions - atoi(), atol() and atof()	2
13	Command line arguments : use of files • Arithmetic operation on arguments • Accessing string and file using command line arguments	2
14	File Handling • Streams and Types of files. • Operations on text files. • Standard library input/output functions and Random access to files.	2
15	Preprocessor • Preprocessor and Format of preprocessor directive • File inclusion directives (#include) • Macro substitution directive, argumented and nested macro and macros versus functions	4

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	**BBACA -152-TH**	**Core Course**	**Relational Database Management System**	**Theory**	**2**	**3**

Course Objectives:

1 Enables students to understand relational database concepts and transaction management concepts in database systems.
2 Enables students to write PL/SQL programs that use: procedure, function, package, Cursor and trigger.

Course Outcomes:

- Understand the principles of databases.
- Understand data security and its importance.
- Understand client server architecture.
- Student will to perform Database operations using PL/PostgreSQL
- Compare and contrast different concurrency control and recovery techniques.
- Analyze various database system architectures
- Formulate SQL queries using advanced SQL features.
- Design databases for different systems with restrictions.

- Creating roles for apply mechanisms for database security

Unit	Title and Contents	No. of lectures in Clock Hours
1	**Introduction To RDBMS** ► Introduction to popular RDBMS product and their features ► Difference Between DBMS and RDBMS ► Relationship among application programs and RDBMS	15
2	**PL-SQL** ► Overview of PLSQL Data Types ,PLSQL Block ► Exception Handling ► Functions, Procedures ► Transaction Concept	
3	**Transaction Management** ► Transaction Concept ► Transaction Properties ► Transaction States ► Concurrent Execution ► Serializability	15
4	**Concurrency Control & Recovery System** ► Lock Based Protocol ► Timestamp Based Protocol ► Deadlock Handling ► Failure Classification ► Recovery & Atomicity ► Recovery with concurrent transaction	

Assessment and Evaluation
Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -152-PR	Core Course	Computer Laboratory based on Relational Database Management System (RDBMS)	Practical	2	4

Course Objectives:

1. **Enables students to understand relational database concepts and transaction management concepts in database systems.**
2. **Enables students to write PL/SQL programs that use: procedure, function, package, cursor and trigger.**

Course Outcomes:

- **Understand the principles of databases.**
- **Understand data security and its importance.**
- **Understand client server architecture.**
- **Student will to perform Database operations using PL/PostgreSQL**
- **Compare and contrast different concurrency control and recovery techniques.**
- **Analyze various database system architectures**
- **Formulate SQL queries using advanced SQL features.**

- **Design databases for different systems with restrictions.**
- **Creating roles for apply mechanisms for database security**

Unit	Title and Contents	No. of lectures in Clock Hours
1	Data Type, PL SQL Block and Control Structure	5
2	Error and Exception Handling	6
4	Function	5
5	Procedure	7
6	Cursors	8
7	Triggers	5
8	Package	4

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -153-TH	Core Course	Web Technology	Theory	2	3

Course Objectives:

1. To know & understand concepts of internet programming.
2. To understand how to develop web based applications using JavaScript

Course Outcomes:

At the end of the course, students will be able to

CO. 1. Students will able to define the concept used in WT

CO. 2. Summarization and explain the individual concept used in Web development , like session, cookies , AJAX , XML etc

CO.3. Implement the techniques used in Web Technology using workbook assignment as an experiment

CO.4. Student will able to distinguish the various concept and

able to Integrate that into single application

CO. 5. Student will able be to perform assignment and experiment

Unit	Title and Contents	No. of lectures in Clock Hours
1	1. Introduction 1.1 Clients- Servers and Communication 1.2 Internet-Basic, Internet Protocols (HTTP, FTP, IP) 1.3 World Wide Web(WWW) 1.4 HTTP request message, HTTP response message 2. Web Design 2.1 Concepts of effective web design 2.2 Web design issues including Browser Bandwidth and Cache 2.3 Display resolution 2.4 Look and Feel of the Website 2.5 Page Layout and linking 2.6 User centric design 2.7 Sitemap 2.8 Planning and publishing website 2.9 Designing effective navigation	15
2	3. HTML 3.1 Introduction to HTML 3.2 Basic HTML Structure 3.3 Common HTML Tags 3.4 Physical and Logical HTML 3.5 Types of Images, client side and server-side Image mapping 3.6 List, Table, Frames 3.7 Embedding Audio, Video 3.8 HTML form and form elements 3.9 Introduction to HTML Front Page 4. Style sheets 4.1 Need for CSS 4.2 Introduction to CSS 4.3 Basic syntax and structure 4.4 Using CSS 4.4.1 background images, colors and properties,	15

	4.4.2 manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS **4.5 Overview and features of CSS2 and CSS3**	
	5. JavaScript **5.1 Introduction to Java Script** **5.2 Identifier & operator, control structure, functions** **5.3 Document object model(DOM)** **5.4 DOM Objects (window, navigator, history, location)** **5.5 Predefined functions, math & string functions** **5.6 Array in Java scripts** **5.7 Event handling in Java script**	

Assessment and Evaluation
Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	**15**	**Offline Written Examination** **Power Point Presentations** **Assignments / Tutorials** **Oral Examination** **Open Book Test** **Offline MCQ Test** **Group Discussion** **Analysis Of Case Studies**
External	**35**	**Written Examination**

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	BBACA -153-PR	Core Course	Computer Laboratory based on Web Technology	Practical	2	4

Course Objectives:

1. To know & understand concepts of internet programming.
2. To understand how to develop web based applications using JavaScript

Course Outcomes:

At the end of the course, students will be able to

CO. 1. Students will able to define the concept used in WT

CO. 2. Summarization and explain the individual concept used in Web development like session, cookies , AJAX , XML etc

CO.3. Implement the techniques used in Web Technology using workbook assignment as an experiment

CO.4. Student will able to distinguish the various concept and able to Integrate that

able to Integrate that into single application

CO. 5. student will able be to perform assignment and experiment

Unit	Title and Contents	No. of lectures in Clock Hours
1	Basic HTML Tags	4
2	Creating List through HTML	6
3	Creating Tables through HTML	5
4	Creating Frames through HTML	5
5	Creating Forms through HTML	6
6	Image Mapping	4
7	Styling HTML with CSS	5
8	JavaScript	5

Assessment and Evaluation
Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	15	Offline Written Examination Power Point Presentations Assignments / Tutorials Oral Examination Open Book Test Offline MCQ Test Group Discussion Analysis Of Case Studies
External	35	Written Examination

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce**
Program	**BBA (CA)**
Class	**F.Y. BBA (CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
II	OE-151-MTS-TH	OE	Business Mathematics	Theory	02	03

Course Objectives:

1. To understand the role and importance of Mathematics in various business situations and while developing software.
2. To develop skills related with basic mathematical technique.
3. Be able to communicate mathematical/logical ideas in writing.
4. Be familiar with several subfields of mathematics (e.g., numerical analysis, Business situations, operations research).
5. To increase price determination ability for financial analysis

Course Outcomes:

1. Explore theoretical approach in practical situations
2. To have better problem-solving skills.
3. To use effectively all the concepts in business.
4. It will help students to develop the logic and quantitative thinking.

Unit	Title and Contents	No. of lectures in Clock Hours
1.	**Ratio, Proportion and Percentage** **1.1 Ratio and Proportion:–** Definition, Continued Ratio,Inverse Ration, Proportion, Continued Proportion, Direct Proportion, Inverse Proportion, Variation, Inverse Variation, Joint Variation, Percentage, computation of Percentage. **1.2 Profit and Loss: -** Terms and Formulae, Trade Discount, Cash discount, Problems involving cost price, sellingprice, Trade discount and cash discount. **1.3 Commission and brokerage:** Introduction to Commission and brokerage, Problems on commission and brokerage	**15**
2.	**Interest and Annuity** **2.1 Interest:** Simple interest, Compound interest, equated monthly Installments (EMI) by interest of reducing balance and flat interest methods and problems. **2.2 Annuity**: Ordinary annuity, sinker fund, annuity due,present value and future value of annuity. **2.3 Shares and Mutual Funds: -** Concepts of Shares, face value, market value, dividend, brokerage, equity shares, preferentialshares, bonus shares, examples and problems, Concept of Mutual Funds Change in Net Asset Value (NAV), Systematic Investment Plan (SIP), Examples and Problems	**15**

The Poona Gujarati Kelavani Mandal's
HARIBHAI V. DESAI COLLEGE
of Arts, Science & Commerce (Autonomous)
Affiliated to Savitribai Phule Pune University
(Linguistic Minority Institution) AICTE NO. : 1-44457797714
ID No.: PU / PN / ASC / 057/ (1984)
NAAC Grade B++ (2.86 CGPA) ■ AISHE CODE : C-41829
Principal:
Dr. Rajendra G. Gurao
M.Sc., Ph.D.
Email: principal@hvdesaicollege.edu.in

Restructured Syllabus (CBCS Pattern as per NEP 2020)

To be implemented from Academic Year: 2024-25

Faculty	**Commerce and Management**
Program	**Bachelor of Business Administration in Computer Application**
Class	**FYBBA(CA)**

Semester	Course Code	Type of Course	Course Title	Theory/ Practical	Credits	No. of clock hours per week
I	SEC-151-BBACA-TH	Skill Enhancement Course (SEC)	E-Commerce	Theory	2	2

Course Objectives:

1. The main objective of this course is to provide basic concepts of E-commerce
2. E-commerce Business Model
3. Electronic Payment System

Course Outcomes:

- To understand the fundamental concepts of E-commerce .
- To understand the fundamental concepts of E-business models and Electronic Payment Systems .

Unit	Title and Contents	No. of lectures in Clock Hours
1	Introduction • E-commerce, E-business, Features of E-commerce, Pure vs. Partial E-commerce • History of E-commerce, E-commerce Framework (People, Public Policy • Marketing and Advertising Support Services, Business Partnerships) • Types of E-commerce: B2C, B2B, C2B, C2C, M-Commerce, U-commerce, Social-Ecommerce, Local E-commerce • Challenges in E-commerce	4
2	• E-commerce Business Model • Elements of Business Model, • Types of Revenue Models ○ B2CBusiness Models: E-tailer, Community Provider, Content Provider, Portal, Transaction Broker, Market Creator, Service Provider, ○ B2B Business Models: Net Market Places (E-distributor, E-procurement, Exchanges, Industry Consortia), Private Industrial Networks Single Firm, Industry Wide), Electronic Data Interchange (EDI), EDI Layered Architecture, EDI in E-commerce, E-commerce and Industry Value Chain, Firm Value Chain, Firm Value Web	13

3	**Electronic Payment System** • **E-payment System, Online Credit Card Transaction, Online Stored Value Payment System,** **Digital and Mobile Wallet, Smart Cards,** **Social/Mobile Peer-to-Peer Payment Systems,** **Digital Cash/e-cash, E-Checks, Virtual Currency,Electronic Billing Presentment and Payment (EBPP) System Auctioning in E-commerce (English, Dutch, Vickery, Double),** • **SET Protocol, Features of SET, Participants in SET,** • **Card Holder Registration, Merchant Registration, Purchase Request, Dual Signature, Payment Authorization, Payment Capture,** • **Status of E-Payment Systems**	**13**

Assessment and Evaluation

Evaluation will be done on a continuous basis during each Semester

Types of Assessment	Marks	Methodology
Internal	**15**	**Offline Written Examination** **Power Point Presentations** **Assignments / Tutorials** **Oral Examination** **Open Book Test** **Offline MCQ Test** **Group Discussion** **Analysis Of Case Studies**
External	**35**	**Written Examination**