**Semester I & II (Batch 2022-26)**

| COURSE CODE | CATE-GORY | COURSE NAME | THEORY | | | PRACTICAL | | L | T | P | CREDITS |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* | | | | |
| ENG101 | AEC | Foundation English | 60 | 20 | 20 | - | - | 4 | 0 | 0 | 4 |

Legends L - Lecture, T - Tutorial/Teacher Guided Student Activity, P - Practical, C - Credit,
*Teacher Assessment shall be based following components Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

## Course Educational Objectives (CEOs): The students will

- **CEO 1** Understand the different nuances of communication.
- **CEO2** understand the features of listening and reading skills.
- **CEO3** Comprehend the factors that influence use of grammar and vocabulary in speech and writing
- **CEO4** study the essential aspects of effective written communication through Business letters and email writing for professional success.
- **CEO5** Develop competency in professional communication.

## Course Outcomes (COs): The students will be able to

- **CO1** develop a comprehensive understanding of the theoretical and practical aspects of communication.
- **CO2** understand and the different aspects of listening and reading.
- **CO3** Apply grammatical rules in speech and writing.
- **CO4** Use proper formats of written business communication.
- **CO5** Demonstrate different strategies for using professional communication skills.

### ENG101
### Foundation English

## COURSE CONTENTS

### UNIT I
### Communication

Communication: Nature, Meaning, Definition, Process, Functions and importance, Characteristics of Communication, Verbal and Non-Verbal Communication, Barriers to Communication.

| Chairperson | Chairperson | Controller of Examination | Joint Registrar |
| --- | --- | --- | --- |
| Board of Studies | Faculty of Studies | Shri Vaishnav Vidyapeeth | Shri Vaishnav Vidyapeeth |
| Shri Vaishnav Vidyapeeth | Shri Vaishnav Vidyapeeth | Vishwavidyalaya, Indore | Vishwavidyalaya, Indore |
| Vishwavidyalaya, Indore | Vishwavidyalaya, Indore | | |

| COURSE CODE | CATE-GORY | COURSE NAME | THEORY | | | PRACTICAL | | L | T | P | CREDITS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* | | | | |
| ENG101 | AEC | Foundation English | 60 | 20 | 20 | - | - | 4 | 0 | 0 | 4 |

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical, C - Credit.
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

## UNIT II
### Listening and Reading Skills

Listening: Process, Types, Difference between Hearing and Listening, Benefits of Effective Listening, Barriers to Effective Listening, Overcoming Listening Barriers, and How to Become an Effective Listener, Developing Reading Skills: Reading Comprehension, Process, Active & Passive reading, Reading speed Strategies, Benefits of effective reading, SQ3R Reading technique.

## UNIT III
### Basic Grammar

Basic Language Skills: Grammar and usage- Parts of Speech, Tenses, Subject and Verb Agreement, Prepositions, Articles, Types of Sentences, Direct - Indirect, Active - Passive voice, Phrases & Clauses.

## UNIT IV
### Business Letters

Business Correspondence: Business Letters, Parts & Layouts of Business Letter, Job application and Resume, Application Calling/ Sending Quotations/ Orders/ Complaints. E-mail writing, Email etiquettes

## UNIT V
### Professional Skills

Negotiation Skills, Telephonic Skills, Interview Skills: Team building Skills and Time management

### Suggested Readings:

- Adair John (2003). **Effective Communication.** London: Pan Macmillan Ltd.

- Thomson A.J. and Martinet A.V. (1991). **A Practical English Grammar** (4th ed). New York: Ox- ford IBH Pub

- Rizvi Ashraf (2005). **Effective Technical Communication.** New Delhi: Tata Mc Graw Hill

- Kratz Robinson (1995). **Effective Listening Skills.** Toronto: ON: Irwin Professional Publishing.

| Chairperson | Chairperson | Controller of Examination | Joint Registrar |
|---|---|---|---|
| Board of Studies | Faculty of Studies | Shri Vaishnav Vidyapeeth | Shri Vaishnav Vidyapeeth |
| Shri Vaishnav Vidyapeeth | Shri Vaishnav Vidyapeeth | Vishwavidyalaya, Indore | Vishwavidyalaya, Indore |
| Vishwavidyalaya, Indore | Vishwavidyalaya, Indore | | |

# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Computer Applications

### Name of the Program: BCA (AIML)

| SUBJECT CODE | Category | SUBJECT NAME | TEACHING & EVALUATION SCHEME | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | THEORY | | | PRACTICAL | | | | | |
| | | | End Sem University Exam | Two Term Exam | Teachers Assessment* | End Sem University Exam | Teachers Assessment* | L | T | P | CREDITS |
| BCCA 102N | BS | Mathematical Foundation of Computer Science I | 60 | 20 | 20 | 0 | 0 | 3 | 1 | 0 | 4 |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.
**\*Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall be exceed 10 Marks)

**Course EducationalObjectives (CEOs):**
To introduce the students with the basics of set theory, calculus, and linear algebra.

**Course Outcomes (COs):**
After the successful completion of this course students will be able to
- *Understand the concepts of set theory.*
- *Learn the basics of differential and integral calculus.*
- *Apply the fundamentals of Calculus.*
- *Learn the basics of Linear algebra.*

**UNIT – I**
**Set Theory:** Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations), Power set, Universal set, Venn diagrams, Union and Intersection of sets, Difference of sets, Complement of a set, Applications of sets.

**UNIT – II**
**Function:** Real Valued function, Classification of real valued functions, Pictorialrepresentation of a function, domain, co-domain and range of a function, Real valued functions, domain and range of these functions: Constant, Identity, Polynomial, Rational, Modulus, Signum, Exponential, Logarithmic, Greatest integer functions (with their graphs) Sum, difference, product and quotients of functions.

# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Computer Applications

### Name of the Program: BCA (AIML)

| SUBJECT CODE | Category | SUBJECT NAME | TEACHING & EVALUATION SCHEME | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | THEORY | | | PRACTICAL | | L | T | P | CREDITS |
| | | | End Sem University Exam | Two Term Exam | Teachers Assessment* | End Sem University Exam | Teachers Assessment* | | | | |
| BCCA 102N | BS | Mathematical Foundation of Computer Science I | 60 | 20 | 20 | 0 | 0 | 3 | 1 | 0 | 4 |

**UNIT – III:** Calculus

**Differentiation:** Introductions, Derivative of a function, Derivative of a constant, Derivative of a product of a constant and a function , Derivative of the sum or difference of two functions, Derivative of the product of two functions (product formula), Derivative of the quotient of two functions (Quotient formula) – Without Proof, Derivative of $x^n$ w.r.t. $x$, where $n$ is any rational number, Derivative of $e^x$, Derivative of $\log_e x$, Derivative of $a^x$, Derivative of trigonometric functions from first principles (Without Proof). Applications.

**UNIT – IV**

**Integration:** Introduction, Definition, Standard formulae, Rules of integration, Method of substitution, Integration by parts, definite integrals. Applications.

**UNIT – V**

**Matrices and Determinant:** Introduction matrices, Types of matrices, Operation on matrices, Transpose of a matrix, Matrix Multiplication, Determinants, Properties of determinants, Product of determinants, Minors and co-factors, Adjoint of square matrix, Singular and non-singular matrices, Inverse of a matrix, Solution of system of linear of equations using matrix method, Cramer's rule,

**Reference books:**

1. Paria G., Differential Calculus, Scholar's Publications, Indore.

2. Paria G., Integral Calculus, Scholar's Publications, Indore.

3. Dr. B. S. Grewal, Higher Engineering Mathematics.

4. Differential Calculus by Shanthi Narayan.

5. Integral Calculus by Shanthi Narayan.

# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

# Shri Vaishnav Institute of Computer Applications

## Name of the Program: BCA (AIML)

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | THEORY | | | PRACTICAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCABDA302 | Major | Python Programming | 2 | 0 | 2 | 3 | 60 | 20 | 20 | 30 | 20 |

**Legends:** L – Lecture; T – Tutorial/Teacher Guided Student Activity; P – Practical; Q/A – Quiz/Assignment/Attendance; MST – Mid Semester Test.
**\*Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class activities, given that no component shall exceed more than 10 marks.

### Course Education Objectives (CEOs):

The goal of this course is to provide students with an understanding of basic concepts of Python Programming Language along with its features.

### Course Outcomes (COs): After completion of this syllabus students will be able to

- Apply basic concepts of python programming.
- Write clear and effective python code based on conditional and iterative statements.
- Will be having an idea about string, list, tuple and functions.
- Create an applications using python programming.

### Unit-I

**Introduction:** Basic Concept of python, its characteristics, Features, Names of popular application in python, various flavours of python, limitations of python, versions of python, Python-2 and Python-3 differences. Identifiers, keywords, datatypes, use of comments in python, variables and constants, various operators used in python.

### Unit-II

**Input-output and Conditional statements:** input and output statements and basic simple programs using it. Decision Making statements: if statement, if-else statement and nested if statement.

## Name of the Program: BCA (AIML)

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | TEACHING & EVALUATION SCHEME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCABDA302 | Major | Python Programming | 2 | 0 | 2 | 3 | 60 | 20 | 20 | 30 | 20 |

**Iterative and Transfer Statements:** Iterative statements: For Loop, While loop, nested loops. Transfer statement: break and continue statement.

## Unit-III

**Strings Used in Python Programming**: Definition, accessingcharacters or values of a String, Updating Strings, String Special Operators, String Formatting Operator.
**List, Tuples, Functions**, Introductory concept of Python Lists and Python Tuples, list Vs tuples, Basic concept of python functions.

## Unit-IV

**Python File Handling**: concept and types of files used in Python Programming language.

Operations like opening and closing a file with various modes, deleting a file.

## Unit-V

**Introduction of Python OOPs Concepts:** Introduction of Class and Object, creating class and its instance, constructor (Parameterized Constructor and Non-Parameterized Constructor), destructors, polymorphism, inheritance (Multilevel and multiple), definition of data abstraction.

**Text Books:**

1. PratiyushGuleria," Basics of Python Programming, BPB Publications, March 2020.
2. Jason Cannon" Python programming for beginners, Kindle book, 2020
3. Ryan Turner, "Python Programming: 3 Books in 1: Ultimate Beginner's, Intermediate & Advanced Guide to Learn Python Step-by-Step", Kindle Edition, 2018.
4. Martin Brown, "Python: The Complete Reference", Mc-Graw-Hill, 2018.

**Name of the Program: BCA (AIML)**

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | TEACHING & EVALUATION SCHEME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCABDA302 | Major | Python Programming | 2 | 0 | 2 | 3 | 60 | 20 | 20 | 30 | 20 |

**List of Practical:**

1. Write python program to print Hello World.

2. Write python program to print your Bio Data.

3. Write a program to perform different Arithmetic Operations on numbers in Python.

4. Write python program to Hello World using string variable.

5. Write python program to show use of break statement.

6. Write python program to show use of continue statement.

7. Write a python program to find largest of three numbers.

8. Write a Python program to convert temperatures to and from Celsius, Fahrenheit.

 [Formula : c = (f-32)/1.8 ]

9. Write a python program to find Smallest of three numbers

10. Write python program to store data in list and then try to print them.

11. Write a python Program to print first five even numbers.

12. Write a python Program to print first five odd numbers.

13. Write python program to print list of numbers using for loop.

14. Write a python program to find factorial of a number using loop.

15. Write a python program to display Fibonacci series.

**Name of the Program: BCA (AIML)**

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | TEACHING & EVALUATION SCHEME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCCA104 | DCC | Fundamentals of Computers and IT | 3 | 1 | 0 | 4 | 60 | 20 | 20 | 0 | 0 |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical;   C - Credit;

Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.

**\*Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall be exceed 10 Marks)

**Course Educational Objectives (CEOs):**
- To create basic understanding of Computer System
- To provide knowledge of concepts of Operating Systems
- To familiarize the students with the need, goal, function and architecture of various operating system available
- To develop the understanding of trends of IT industry, safe and ethical use of IT

**Course Outcomes (COs):** students will be able to
- To understand the need, goal and function of the OS
- Understand and use Windows and Linux operating systems commands.
- Organizing and manipulating files and folders.
- Understand and Use different editors of Linux
- Manipulating data using input output redirection
- Writing shell scripts
- To exercise the safe computer practices

**Unit–I**
**Introduction to Computer Fundamentals:** Introduction to Computer, Computer System Hardware, Computer Memory, Input and Output Devices, Interaction between User and Computer, Introduction to Free and Open Source Software, Definition of Computer Virus, Types of Viruses, Use of Antivirus software.

**Unit–II**
**Computer**: Definition, Classification, Organization i.e. CPU, register, Bus architecture, Instruction set, Memory & Storage Systems, I/O Devices, and System & Application Software. Computer Application in e-Business, Bio-Informatics, health Care, Remote Sensing & GIS, Meteorology and Climatology, Computer Gaming, Multimedia and Animation etc.

Chairperson
Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson
Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Computer Applications

### Name of the Program: BCA (AIML)

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| BCCA104 | DCC | Fundamentals of Computers and IT | 3 | 1 | 0 | 4 | 60 | 20 | 20 | 0 | 0 |

**Unit–III**

Basics of Operating System, Definition of Operating System, Objectives, types, and functions of Operating Systems. Working with Windows Operating System: Introduction, The Desktop, Structure of Windows, Windows Explorer, File and Folder Operations, The Search, The Recycle Bin, Configuring the Screen, Adding or Removing New Programs using Control Panel, Applications in windows (Paint, Notepad, WordPad, Calculator).

**Unit–IV**

Introduction of Basic Commands of LINUX and Editors, Managing Files and Directories in LINUX, Programming Environment in LINUX, Writing and executing programs in LINUX.

**Unit–V**

**Compilers & Interpreters:** aspects of compilation, memory allocation, compilation of expression compilation of control structures, code optimization, interpreters. Software Tools: Software tools for program development, editors, debug monitors, programming environment, user interfaces

**Text Books:**

1. V. Rajaraman, "Fundamentals of Computers", PHI.
2. Peter Norton's, "Introduction to Computers", TMH.
3. Operating Systems –Silberschatz and Galvin -Wiley India.
4. Andrew Tananbaum, Computer Networks:, PHI
5. Pramod Koparkar "Unix for You":, TMH.
6. Machtelt Garrels, " Introduction to Linux".
7. Sanders, D.: Computers Today, Tata McGraw-Hill

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | TEACHING & EVALUATION SCHEME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCCA105 | AEC | Programming Methodology and C | 3 | 1 | 0 | 4 | 60 | 20 | 20 | 0 | 0 |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical;   C - Credit;
Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.
**\*Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall be exceed 10 Marks)


## Course Educational Objectives (CEOs):
- To familiarize the students with programming and to encourage them to develop their logic.
- To make students well versed with C language to solve problems efficiently.
- Using simple and well drawn illustrations develop their programming skills using modular programming.
- To cover the various data structures and their applications.

## Course Outcomes (COs): Students will be able to:
- Develop algorithms for problems.
- Apply the programming concepts to solve the given problems.
- Write the programs using modular programming.
- Understand and write programs using various data structures very efficiently.
- Write the programs using pointers and to manage memory.
- Implement programs of file handling.

## Unit-I
**An overview:** Problem identification, analysis, design, coding, testing & debugging, implementation, modification & maintenance; algorithms & flowcharts; Characteristics of a good program - accuracy, simplicity, robustness, portability, minimum resource & time requirement, modularization; Rules/ conventions of coding, documentation, naming variables; Top down design; Bottom-up design.

Chairperson
Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson
Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | TEACHING & EVALUATION SCHEME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCCA105 | AEC | Programming Methodology and C | 3 | 1 | 0 | 4 | 60 | 20 | 20 | 0 | 0 |

**Unit-II**
**Fundamentals of C Programming:** History of C; Structure of a C Program; Data types; Constant & Variable, naming variables; Operators & expressions; Control Constructs – if-else, for, while, do-while; Case switch statement; Arrays; Formatted & unformatted I/O; Type modifiers & storage classes; Ternary operator; Type conversion & type casting; Priority & associativity of operators.

**Unit-III**
**Modular Programming:** Functions; Arguments; Return value; Parameter passing – call by value, call by reference; Return statement; Scope, visibility and life-time rules for various types of variable, static variable; Calling a function; Recursion – basics, types of recursion- direct, indirect.

**Unit-IV**
**Advanced Programming Techniques:** Special constructs – Break, continue, exit (), goto& labels;Pointers - & and * operators, pointer expression, pointer arithmetic, dynamic memory management functions like malloc(), calloc(), free(); String; Pointer v/s array;Structure – basic, declaration, membership operator.

**Unit-V**
**Miscellaneous Features:** printf & scanf family; C preprocessor – basics, #Include, #define, #undef, conditional compilation directive like #if, #else, #elif, #endif, #ifdef and #ifndef

**Text Books:**
1. KanitkarYashwant, 'Let us C', BPB New Delhi
2. Balaguruswami, 'Ansi C', TMH, Delhi
3. Kerninghan& Ritchie "The C programming language", PHI
4. Schildt, "C:The Complete reference" 4th ed TMH.
5. Cooper Mullish, "The Spirit of C", Jaico Publishing House, Delhi

Chairperson
Board of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Chairperson
Faculty of Studies
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Controller of Examination
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

Joint Registrar
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | TEACHING & EVALUATION SCHEME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | THEORY | | | PRACTICAL | |
| | | | | | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
| BCCA106 | AEC | Programming Lab using C | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 30 | 20 |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical;   C - Credit;
Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.
**\*Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall be exceed 10 Marks)

## Course Educational Objectives (CEOs):
- To familiarize the students with programming and to encourage them to develop their logic.
- To make students well versed with C language to solve problems efficiently.
- Using simple and well drawn illustrations develop their programming skills using modular programming.
- To cover the various data structures and their applications.

## Course Outcomes (COs):
Student will be able to:
- Develop algorithms for problems.
- Apply the programming concepts to solve the given problems.
- Write the programs using modular programming.
- Understand and write programs using various data structures very efficiently.
- Write the programs using pointers and to manage memory.
- Implement programs of file handling.

## List of Experiments:
1. Define an algorithm and flowchart. Draw algorithm and flow chart for a program that converts an input Fahrenheit degree into Celsius equivalent.
2. Write an algorithm and a C program to find the greatest among three numbers.
3. WAP to print an input string in lower case, upper case and mixed case using library function.

| COURSE CODE | CATEGORY | COURSE NAME | L | T | P | CREDITS | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | \<-- THEORY --\> | | | \<-- PRACTICAL --\> | |
| BCCA106 | AEC | Programming Lab using C | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 30 | 20 |

4. WAP to read in a three digit number produce following output (assuming that the input is 679)

   6 hundreds

   7 tens

   9 units

5. WAP a C program to reverse an input number.
6. Draw a flow chart to find prime number from 1 to 100.
7. WAP to find factorial of accepted number.
8. WAP to calculate factorial of a number using recursion.
9. WAP in C to generate Fibonacci series.
10. WAP in C to generate Pascal triangle.
11. WAP in C to swap values of two variables.
12. WAP in C to search a given element in an array using linear search.
13. WAP to sort an integer array in ascending and descending order according to user's choice.
14. Write a menu driven program to perform matrix addition, subtraction and multiplication.
15. WAP a C program to reverse a string by recursion.
16. WAP to read and write a structure.

**Text Books:**

1. KanitkarYashwant, 'Let us C', BPB New Delhi
2. Balaguruswami, 'Ansi C', TMH, Delhi
3. Kerninghan& Ritchie "The C programming language", PHI
4. Schildt "C:The Complete reference" 4th ed TMH.
5. Cooper Mullish "The Spirit of C", Jaico Publishing House, Delhi