

**Post Graduate Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| <b>PART-A: Introduction</b>                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
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| Program: Post Graduate Diploma in Computer Application                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Semester: I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Session:2024-2025</b>                 |
| 1                                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>CADC-08T</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| 2                                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Programming in C and C++</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| 3                                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
| 4                                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | As per Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| 5                                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | After completing this course, the students will be able to: <ul style="list-style-type: none"> <li>Identify situations where computational methods and computers would be useful.</li> <li>Given a computational problem, identify and abstract the programming task involved.</li> <li>Develop programming skill and learn how to implement a new software.</li> <li>Develop programming and logical concepts which helps to build up source code of concern programming language.</li> <li>Understand the concept of programming like Compilation. Debugging, Executing. Linking and Loading.</li> <li>Familiar about the structure of C and C++ program.</li> </ul> |                                          |
| 6                                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4 Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (Credit=15 hours-learning & observation) |
| 7                                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Min Passing Marks : 40                   |
| <b>PART- B: CONTENT OF THE COURSE</b>                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| <b>Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| <b>Unit</b>                                                                               | <b>Topics (Course Contents)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>No. of Period</b>                     |
| I                                                                                         | <b>Introduction and Programming Concepts:</b><br>Definition of Program, Source file, Object file, Executable file, Header file, Language Translator- Assembler, Interpreter, Compiler, Testing, Debugging, Linker and Loader, Algorithms, Flow Charts, History of C language, Structure of C program, C Tokens: Identifiers. Keywords, Constants. Variables, Operators, Data Types. Control structure Conditional and looping statements. Operator Precedence and Associativity, Array and it's type.                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15                                       |
| II                                                                                        | <b>Core Concepts of C Programming:</b><br>Functions: Standard Library and User defined functions, function prototype, Call by value and Call by reference, recursive functions, String functions, Structure: Declaration and Definition, Nested structure, array within structure. Union: Declaration and Definition, union variables, Pointers: Declaration and Definition, using & and operators, pointer arithmetic, pointer to pointer, Dynamic memory allocation functions: malloc, calloc, realloc, free, File Handling: Basics, File Pointer, various file accessing functions |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15                                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
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| III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Introduction to Object Oriented Programming:</b><br>Concepts, Features of C++, Bottom up Approach, Structure of C++ program, Data types, Class and Objects. Access Specifiers: Private, Public, Protected, I/O statements, Insertion and Extraction operator, Scope resolution operator, Array, this pointer, Constructor :, Default constructor, Copy constructor, Parameterized constructor, Destructor.                                                          | 15 |
| IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Inheritance:</b> Definition, Concept of base and derived class, Types of Inheritance: Single, Multilevel, Multiple, Hierarchical and Hybrid Inheritance.<br><b>Polymorphism:</b> Definition, Compile time polymorphism: Function overloading, Operator overloading, Run time polymorphism: Virtual Function, pure virtual function. Inline function, friend function, friend class. Exception Handling, Exception basics, try, catch and throws keywords, Template. | 15 |
| Keywords                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Token, datatype, Operators, Functions, Class, Inheritance, Polymorphism.                                                                                                                                                                                                                                                                                                                                                                                               |    |
| Name and Signature of Convener & Member of BoS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
| <b>Part - C : Learning Resources</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
| <b>Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
| <b>Text Books Recommended-</b> <ul style="list-style-type: none"><li>Let us C: Yashwant Kanetkar, BPB Publications.</li><li>Programming in ANSI C, E. Balaguruswamy, Tata McGraw Hill</li><li>Let us C++, Y. Kanetkar, B.P.B Publication.</li><li>Programming in C++, E. Balaguruswamy, Tata McGraw Hill.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
| <b>Reference Books Recommended:</b> <ul style="list-style-type: none"><li>Program Design, Peter Juliff, PHI Publications</li><li>Programming in C++, Bjarne Stroustrup, Addison-Wesley</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
| <b>E-resources:</b> <ul style="list-style-type: none"><li>C/C++ different topics from SWAYAM/NPTEL</li><li>Introduction<br/><a href="https://onlinecourses.nptel.ac.in/noc19_cs38/preview">https://onlinecourses.nptel.ac.in/noc19_cs38/preview</a><br/><a href="https://onlinecourses.nptel.ac.in/noc22_cs103/preview">https://onlinecourses.nptel.ac.in/noc22_cs103/preview</a><br/><a href="https://www.youtube.com/watch?v=KG4hjVDw-p8&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=2">https://www.youtube.com/watch?v=KG4hjVDw-p8&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=2</a></li><li>Constant and Inline Function<br/><a href="https://www.youtube.com/watch?v=pX6LufLso2M&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=10">https://www.youtube.com/watch?v=pX6LufLso2M&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=10</a></li><li>Pointer and Reference<br/><a href="https://www.youtube.com/watch?v=GtsBZ5e1-cE&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=12">https://www.youtube.com/watch?v=GtsBZ5e1-cE&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=12</a></li><li>Function Overloading<br/><a href="https://www.youtube.com/watch?v=uJGmGAShHeU&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=13">https://www.youtube.com/watch?v=uJGmGAShHeU&amp;list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&amp;index=13</a></li><li>Operator Overloading</li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |

<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=17>

#### Dynamic Memory Management

<https://www.youtube.com/watch?v=-lkFK2X6qIcO&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=18>

#### 1. Class and Object

[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)

#### 2. Access Specifiers

[https://www.youtube.com/watch?v=6ki\\_W7cXdM0&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22](https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=22)

#### 3. Constructor and Destructor

[https://www.youtube.com/watch?v=wtuks\\_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24](https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEEdvPIVFUkU3jNc6D2&index=24)

- C different topics from W3School <https://www.w3schools.com/c/>
- C++ different topics from W3School <https://www.w3schools.com/CPP/default.asp>
- C different topics from Javatpoint <https://www.javatpoint.com/c-programming-language-tutorial>
- C++ different topics from Javatpoint <https://www.javatpoint.com/cpp-tutorial>

### PART -D:AssessmentandEvaluation -Theory

#### Suggested Continuous Evaluation Methods:

Maximum Marks: **100 Marks**

Continuous Internal Assessment(CIA): **30 Marks**

End Semester Exam (ESE): **70 Marks**

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| <b>Continuous Internal Assessment (CIA):</b><br>(By CourseTeacher) | Internal Test / Quiz-(2): <b>20 +20</b><br>Assignment / Seminar - <b>10</b><br>Total Marks - <b>30</b>                                                                                                                                 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against <b>30 Marks</b> |
| <b>End Semester Exam (ESE):</b>                                    | <b>Two section – A &amp; B</b><br><b>Section A:</b><br><b>Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20Marks</b><br><b>Section B:</b><br>Descriptive answer type qts., <b>1 out of 2 from each unit-4x10=40 Marks</b> |                                                                                                                    |

Name and Signature of Convener & Members of BoS:

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| PART-A: Introduction                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |
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| Program :Post Graduate Diploma in Computer Application                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Semester: I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | Session:2024-2025     |
| 1                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CADC-08P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                       |
| 2                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Programming in C and C++                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                       |
| 3                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Discipline Specific Course (practical)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |                       |
| 4                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | As per Syllabus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |
| 5                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | After completing this course, the students will be able to: <ul style="list-style-type: none"><li>• Identify situations where computational methods and computers would be useful.</li><li>• Given a computational problem, identify and abstract the programming task involved.</li><li>• Develop programming skill and learn how to implement a new software.</li><li>• Develop programming and logical concepts which helps to build up source code of concern programming language.</li><li>• Familiar about the structure of C and C++ program.</li></ul> |                                |                       |
| 6                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4 Credit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (1 Credit=15 hours Laboratory) |                       |
| 7                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Max. Marks: 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | Min Passing Marks: 40 |
| Part B: Content of the Course                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |
| Total No. of learning-Training/performance Periods: 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |
| Module                                                                    | Note: This is tentative list; the teachers concern can add more program as per requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |
| Lab./ Experiment Contents of Course,                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |
|                                                                           | 1. Write a program in C/C++ for addition of two numbers using float data type.<br>2. Write a program in C/C++ to find the biggest number between two numbers.<br>3. Write a program in C/C++ to find the factorial value of any entered number using do while loop.<br>4. Write a program in C/C++ for various arithmetic operations using switch case statements.<br>5. Write a program in C/C++ for Multiplication of two 3X3 matrix.<br>6. Write a program in C/C++ to store five books information using structure.<br>7. Write a program in C/C++ to store six employee information using union.<br>8. Write a program in C/C++ to calculate simple interest using call by value and call by reference method.<br>9- Write a program to demonstrate work of malloc(), realloc() and free().<br>10. Write a program in C++ to find the sum and average of five numbers using class and objects.<br>11. Write a program in C++ to multiply two numbers using private and public member functions. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                       |

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|  | <p>12. Write a program in C++ to print structure like this using scope resolution operator</p> <pre> 1 12 123 1234 12345 </pre> <p>13. Write a program in C++ for constructor and Destructor.<br/> 14. Write a program in C++ for multiple inheritance.<br/> 15. Write a program in C++ for operator overloading.<br/> 16. Write a program in C++ for friend class and friend function.<br/> 17. Write a program in C++ for virtual function and virtual class.<br/> 18. Write a program in C++ for Exception Handling.<br/> 19. WAP to display Fibonacci series (i) using recursion, (ii) using iteration<br/> 20. WAP to calculate Factorial of a number (1) using recursion, (ii) using iteration<br/> 21. WAP to calculate GCD of two numbers (1) with recursion (ii) without recursion.</p> |
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| Part - C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| Learning Resource: Text Books, Reference Books, Others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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- Function Overloading  
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- Operator Overloading  
<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=17>

Dynamic Memory Management

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4. Class and Object

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5. Access Specifiers

[https://www.youtube.com/watch?v=6ki\\_W7cXdm0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=22](https://www.youtube.com/watch?v=6ki_W7cXdm0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=22)

6. Constructor and Destructor

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- C different topics from Javatpoint <https://www.javatpoint.com/c-programming-language-tutorial>
- C++ different topics from Javatpoint <https://www.javatpoint.com/cpp-tutorial>

**PART -D: Assessment and Evaluation -Practical**

**Suggested Continuous Evaluation Methods:**

Maximum Marks: 100 Marks

Continuous Internal Assessment(CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

|                                                                     |                                                                                                                                                        |                                                                                                                    |
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| <b>Continuous Internal Assessment (CIA):</b><br>(By Course Teacher) | Internal Test / Quiz-(2): 20 +20<br>Assignment / Seminar+ Attendance - 10<br>Total Marks - 30                                                          | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against <b>30</b> Marks |
| <b>End Semester Exam (ESE):</b>                                     | <b>Laboratory / Field Skill Performance: On spot Assessment</b><br>D. practical work - 40 Marks<br>E. Lab record – 10 Marks<br>F. Viva-voce - 20 Marks | Managed by Course teacher as per lab. status                                                                       |

**Name and Signature of Convener & Members of CBoS:**

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| PART-A: Introduction                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                      |                                          |                        |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------|
| Program: Diploma in<br>Computer<br>Application                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Semester: I                                                                                                                                                                                                                                                                                                                                                          |                                          | Session:2024-2025      |
| 1                                                                                  | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CADC-01T                                                                                                                                                                                                                                                                                                                                                             |                                          |                        |
| 2                                                                                  | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fundamentals of Computer                                                                                                                                                                                                                                                                                                                                             |                                          |                        |
| 3                                                                                  | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                                                                  |                                          |                        |
| 4                                                                                  | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | As per Program                                                                                                                                                                                                                                                                                                                                                       |                                          |                        |
| 5                                                                                  | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | After completing this course, the students will be able to:<br>1) Study and use of basic concepts and terminology of information technology.<br>2) Organize files and documents on storage devices.<br>3) Acquire knowledge of ICT and Internet applications.<br>4) Develop information technology solutions by evaluating user requirement in advance trends of IT. |                                          |                        |
| 6                                                                                  | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4 Credits                                                                                                                                                                                                                                                                                                                                                            | (Credit=15 hours-learning & observation) |                        |
| 7                                                                                  | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                                                               |                                          | Min Passing Marks : 40 |
| PART- B: CONTENT OF THE COURSE                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                      |                                          |                        |
| Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                      |                                          |                        |
| Unit                                                                               | Topics (Course Contents)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                      |                                          | No. of Period          |
| I                                                                                  | Introduction to Computers:<br>Computer System Characteristics and Capabilities: Speed, Accuracy, Reliability, Memory capability, Repeatability. Computer Hardware and Software, Block Diagram of a Computer. Types of Computers: Analog, Digital, Hybrid General and Special Purpose Computers. Computer Generations: Characteristics of Computer Generations Computer Systems - Micros, Minis & Main-frames. Introduction to a PC: The IBM Personal Computer Types of PC systems PC, XT & AT Pentium PC's.                         |                                                                                                                                                                                                                                                                                                                                                                      |                                          | 15                     |
| II                                                                                 | Computer Organization:<br>Keyboard, Direct Entry - Card Readers, Scanning Devices- O.M.R., Character Readers, MICR, Voice Input Devices, Pointing Devices - Mouse, Light Pen. Storage Devices: Storage Fundamentals-Bits, Bytes, Primary Storage - RAM,ROM, Secondary Storage-Floppy Disks, Hard Disks, Optical Disks, CD/DVD. Computer Output: Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies. |                                                                                                                                                                                                                                                                                                                                                                      |                                          | 15                     |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| III      | <b>Operating System:</b><br>MS-DOS - Introduction, History and Versions of DOS. Booting Process, System Files and Command.com, Internal DOS Commands - DIR, MD, CD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE. Files & Directories, Elementary External DOS Commands - CHKDSK, MEM, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, HELP, TREE, SYS, LABEL, ATTRIB, Creating a Batch Files, Additional Commands - ECHO, PROMPT, MODE, EDIT, FORMAT, FDISK, BACKUP, RESTORE, MORE, SORT.                | 15 |
| IV       | <b>Windows:</b><br>Windows Concepts, Features, Structures, Desktop, Taskbar, Start Menu, My Computer, Recycle Bin. Accessories: Calculator, Notepad, Paint, WordPad, Character Map. Explorer: Creating folders and other Explorer facilities, Internet Explorer basics, navigating the Web, Control Panel.<br><b>Linux:</b> Open Source Software concept and evolution of Linux, Features of Linux OS, Structure of Linux OS, File System, Directory Structure, Linux editors & Editor commands, Linux. | 15 |
| Keywords | Information Technology(IT), Operating System, Software.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |

Name and Signature of Convener & Member of BoS:

## Part - C : Learning Resources

### Text Books, Reference Books, Others

#### Text Books Recommended-

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.

#### Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.

#### E-resources:

1. Introduction to Computer Fundamental from W3school:

<https://www.w3schools.blog/computer-fundamentals-tutorial>

- 2.Fundamentals of Computers & Information Technology (in Hindi):

<https://www.mcu.ac.in/wp-content/uploads/2020/04/1PGDCA1-Unit-1-Fundamentals-of->

3.Fundamentals of Computers & Information Technology (in Hindi):

[https://hte.rajasthan.gov.in/dept/dte/board of technical education, rajasthan/government\\_polytechnic college hanumangarh/uploads/doc/fundamental-final-rkd.pdf](https://hte.rajasthan.gov.in/dept/dte/board%20of%20technical%20education,rajasthan/government_polytechniccollegehanumangarh/uploads/doc/fundamental-final-rkd.pdf).

4.Information and Computers

Technology: [https://cbseacademic.nic.in/web\\_material/doc/2014/11 ICT-IX.pdf.pdf](https://cbseacademic.nic.in/web_material/doc/2014/11%20ICT-IX.pdf.pdf).

**PART -D:AssessmentandEvaluation -Theory**

**Suggested Continuous Evaluation Methods:**

Maximum Marks: **100 Marks**

Continuous Internal Assessment(CIA): **30 Marks**

End Semester Exam (ESE): **70 Marks**

**Continuous Internal Assessment (CIA): (By CourseTeacher)**

Internal Test / Quiz-(2): **20 +20**  
Assignment / Seminar - **10**  
Total Marks - **30**

Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against **30 Marks**

**End Semester Exam (ESE):**

**Two section – A & B**

**Section A:**

**Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20Marks**

**Section B:**

**Descriptive answer type qts.,1 out of 2 from each unit-4x10=40 Marks**

**Name and Signature of Convener & Members of BoS:**

**Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                               |                                          |                        |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------|
| Program: Diploma in Computer Application                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Semester: I                                                                                                                                                                                                                                                                                                                   |                                          | Session:2024-2025      |
| 1                                                                                  | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CADC-02T                                                                                                                                                                                                                                                                                                                      |                                          |                        |
| 2                                                                                  | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Office Automation                                                                                                                                                                                                                                                                                                             |                                          |                        |
| 3                                                                                  | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                           |                                          |                        |
| 4                                                                                  | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | As per Program                                                                                                                                                                                                                                                                                                                |                                          |                        |
| 5                                                                                  | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | After completing this course, the students will be able to:<br>1) Students would be able to documents, spreadsheets, make small Presentations and would be acquainted with internet.<br>2) Student will come to know about database creation.<br>3) This subject helps in understanding the basics of office automation task. |                                          |                        |
| 6                                                                                  | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4 Credits                                                                                                                                                                                                                                                                                                                     | (Credit=15 hours-learning & observation) |                        |
| 7                                                                                  | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                        |                                          | Min Passing Marks : 40 |
| PART- B: CONTENT OF THE COURSE                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                               |                                          |                        |
| Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                               |                                          |                        |
| Unit                                                                               | Topics (Course Contents)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                               |                                          | No. of Period          |
| I                                                                                  | <b>MS-Word:</b><br>Creating and editing word documents, formatting documents - aligning documents, indenting paragraphs, changing margin, formatting pages, formatting paragraph, printing labels, working with tables, formatting text in tables, inserting and deleting cells, rows and columns, use bulleted and numbering, checking spelling and grammar, finding synonyms, working with long documents, working with header and footer, adding page number and foot note, working with graphics, inserting clip art, working with pictures, Word art, creating chart & Graphs, creating flowcharts, working with mail merge, writing the form letter, merging form documents, merging to label, Working with Mailing lists and Data Sources, selecting merge records, creating macros, running macro.                                                                                 |                                                                                                                                                                                                                                                                                                                               |                                          | 15                     |
| II                                                                                 | <b>Working with MS-Excel:</b><br>Introducing Excel, use of excel sheet, saving, opening and printing workbook Apply formats in cell & text, Divide worksheet into pages, setting page layout, adding Header & Footer. Using multiple documents, arranging windows i.e (Cascade, Tiled ,Split, protecting your work, password protection. Working with Functions & Formulas, using absolute reference, referencing cell by name, using cell label, giving name to cell and ranges, working with formulas (mathematical & trigonometric . statistical, date time, most recently used), Working with Excel graphics, creating chart & graphs. Working with lists & database, sorting a database, filtering a database ,using auto filter ,criteria range, calculating total and subtotal, creating pivot table, goal seek, recording & playing macros, deleting and selecting macro location. |                                                                                                                                                                                                                                                                                                                               |                                          | 15                     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Presenting with PowerPoint :</b><br>Creating presentation, working with slides, different types of slides, setting page layout, selecting background and applying design, adding graphics to slide, adding sound and movie, working with table, creating chart and graph, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show, from windows. | 15 |
| IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Introduction of DBMS through MS-Access:</b><br>Introduction to Database, DBMS, RDBMS, Features of Access, Designing Database, Relationship ( One to One, One to many, Many to Many), Create table ( Design View, Wizard, Datasheet View), Query (Update Query, Delete Query, Selection Query, Cross table Query, Make table Query).                                                                                                      | 15 |
| Keywords      MS –Word, Mail merge ,MS-Excel, MS-PowerPoint, MS-Access.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| Name and Signature of Convener & Member of BoS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| <b>Part - C : Learning Resources</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| <b>Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| <b>Text Books Recommended-</b> <ul style="list-style-type: none"> <li>• Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.</li> <li>• Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.</li> <li>• Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.</li> <li>• Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.</li> </ul>                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| <b>Reference Books Recommended:</b> <ul style="list-style-type: none"> <li>• Fundamental of IT, Leon and Leon, Leon Tec world.</li> <li>• Introduction to Information Technology, Aksoy and Denardis, Cengage learning.</li> <li>• Computers Today, Suresh K. Basandra, Galgotia Publications.</li> <li>• Information Technology The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.</li> <li>• OFFICE 2013 in Simple Steps, Kogent Solution Inc., DremTech Press.</li> <li>• Access 2010 in Simple Steps by Kogent Learning Solutions Inc</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| <b>E-resources:</b> <ul style="list-style-type: none"> <li>• Introduction to MS-Word from W3school:<br/> <a href="https://www.w3schools.blog/ms-word-tutorial">https://www.w3schools.blog/ms-word-tutorial</a> </li> <li>• Introduction to MS-Excel from W3school:<br/> <a href="https://www.w3schools.com/excel/excel_introduction.php">https://www.w3schools.com/excel/excel_introduction.php</a> </li> </ul>                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |

- Introduction to MS-PowerPoint from W3school:  
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:  
[https://www.w3schools.com/sql/sql\\_ref\\_msaccess.asp](https://www.w3schools.com/sql/sql_ref_msaccess.asp)
- Microsoft Office (in Hindi):  
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-GkNotesPDF-com>.
- MS-OFFICE:  
<https://www.rgyesm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:  
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>, Microsoft Office Full Crash Course: <https://www.youtube.com/watch?v=SH4oyV5AJ6A>

#### **PART -D:AssessmentandEvaluation -Theory**

##### **Suggested Continuous Evaluation Methods:**

Maximum Marks: **100 Marks**

Continuous Internal Assessment(CIA): **30 Marks**

End Semester Exam (ESE): **70 Marks**

##### **Continuous Internal Assessment (CIA): (By CourseTeacher)**

Internal Test / Quiz-(2): **20 +20**  
Assignment / Seminar - **10**  
Total Marks - **30**

Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against **30 Marks**

##### **End Semester Exam (ESE):**

**Two section – A & B**

**Section A:**

**Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20Marks**

**Section B:**

Descriptive answer type qts., **1 out of 2 from each unit-4x10=40 Marks**

**Name and Signature of Convener & Members of BoS:**

**Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                               |                                |                       |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------|
| Program :Post Graduate Diploma in Computer Application                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Semester: I                                                                                                                                                                                                                                                                                                                   |                                | Session:2024-2025     |
| 1                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CADC-02P                                                                                                                                                                                                                                                                                                                      |                                |                       |
| 2                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Office Automation                                                                                                                                                                                                                                                                                                             |                                |                       |
| 3                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Discipline Specific Course (practical)                                                                                                                                                                                                                                                                                        |                                |                       |
| 4                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | As per Syllabus                                                                                                                                                                                                                                                                                                               |                                |                       |
| 5                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | After completing this course, the students will be able to:<br>1) Students would be able to documents, spreadsheets, make small Presentations and would be acquainted with internet.<br>2) Student will come to know about database creation.<br>3) This subject helps in understanding the basics of office automation task. |                                |                       |
| 6                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4 Credit                                                                                                                                                                                                                                                                                                                      | (1 Credit=15 hours Laboratory) |                       |
| 7                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Max. Marks: 100                                                                                                                                                                                                                                                                                                               |                                | Min Passing Marks: 40 |
| Part B: Content of the Course                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                               |                                |                       |
| Total No. of learning-Training/performance Periods: 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                               |                                |                       |
| Module                                                                    | Topics (Course contents)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                               |                                |                       |
| Lab./ Experiment Contents of Course,                                      | <div>MS-Word</div> <div>1. Prepare a grocery list having four columns (Serial number, the name of the product, quantity and price) for the month of April, 06.<div>➤ Font specific actions for Title (Grocery List): 14-point Arial font in bold and italics.</div><div>➤ The headings of the columns should be in 12-point and bold.</div><div>➤ The rest of the document should be in10-point Times New Roman</div><div>➤ Leave a gap of 12-points after the title.</div></div> <div>2. Create a telephone directory.<div>➤ The heading should bel 6-point Arial Font in bold.</div><div>➤ The rest of the document should use 10-point font size.</div><div>➤ Other headings should use10-point Courier New Font.</div><div>➤ The footer should show the page number as well as the date last updated.</div></div> <div>3. Design a time-table form for your college.<div>➤ The first line should mention the name of the college in 16-point Arial Font and should be bold.</div><div>➤ The second line should give the course name/teacher's name and the department in 14-pointArial.</div><div>➤ Leave a gap of 12-points.</div><div>➤ The rest of the document should use 10-point Times New Roman font.</div><div>➤ The footer should contain your specifications as the designer and date of creation.</div></div> <div>4. XYZ Publications plan store lease an e-book design dapper your syllabus. Design the First page of the book as per the given specifications.</div> |                                                                                                                                                                                                                                                                                                                               |                                |                       |

- The title of the book should appear in bold using 20-point Arial font.
- The name of the author and his qualifications should be in the center of the page in 6-point Arial font.
- At the bottom of the document should be the name of the publisher and address in 16-point Times New Roman.
- The details of the offices of the publisher (only location) should appear in the footer.

5. Create the following one page documents.

- Compose a note inviting friends together at your house, including a list of things to bring with them.
- Design a certificate in landscape orientation with a border around the document.
- Design a Garage Sale sign.
- Make an assignment outlining your rules for your bedroom at home, using a numbered list.

6. Create the following documents:

- A newsletter with a headline and 2 columns in portrait orientation, including atleast one image surrounded by text.
- Use a newsletter format to promote upcoming projects or events in your classroom or college.

7. Convert following text to a table, using comma as delimiter Type the following as shown (do not bold).

**Color, Style, Item**

**Blue, A980, Van**

**Red, X023, Car**

**Green, YL724, Truck**

**Name, Age, Sex**

**Bob, 23, MI**

**Linda, 46, F**

**Tom, 29, M**

8. Enter the following data into a table given on the next page.

| <b>Salesperson</b> | <b>Dolls</b> | <b>Trucks</b> | <b>Puzzles</b> |
|--------------------|--------------|---------------|----------------|
| Kennedy, Sally     | 1327         | 1423          | 1193           |
| White, Pete        | 1421         | 3863          | 2934           |
| Pillar, James      | 5214         | 3247          | 5467           |
| York, George       | 2190         | 1278          | 1928           |
| Banks, Jennifer    | 1201         | 2528          | 1203           |
| Atwater, Kelly     | 4098         | 3079          | 2067           |
| Pillar, James      | 5214         | 3247          | 5467           |
| York, George       | 2190         | 1278          | 1928           |
| Banks, Jennifer    | 1201         | 2528          | 1203           |
| Atwater, Kelly     | 4098         | 3079          | 2067           |

Add a column Region (values: S, N, N, S, S, S) between the Salesperson and Dolls columns to the given table Sort your table data by Region and within Region by Sales person in ascending order:

In this exercise, you will add a new row to your table, place the word Total at the bottom of the Sales person column, and sum the Dolls, Trucks, and Puzzles

9. Wrapping of text around the image.

10. How to install MS-Office in Windows operating system.
11. How to convert word, excel and PowerPoint into pdf & pdf to word.
12. How to merge and split pdf files.

\*\*\*\*\*  
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## MS-Excel

1. Enter the Following data in Excel Sheet

### REGIONAL SALES PROJECTION

| State          | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Qtr Total | Rate amount |
|----------------|------|------|------|------|-----------|-------------|
| Delhi          | 2020 | 2400 | 2100 | 3000 | 15        |             |
| Punjab         | 1100 | 1300 | 1500 | 1400 | 20        |             |
| U.P.           | 3000 | 3200 | 2600 | 2800 | 17        |             |
| Haryana        | 1800 | 2000 | 2200 | 2700 | 15        |             |
| Rajasthan      | 2100 | 2000 | 1800 | 2200 | 20        |             |
| <b>Total</b>   |      |      |      |      |           |             |
| <b>Average</b> |      |      |      |      |           |             |

- a. Apply Formatting as follow:

Title in TIMES NEW ROMAN

FontSize-14

Remaining text-ARIAL, FontSize-10

State name and Qtr. Heading Bold, Italic with Gray Fill Color.

Numbers in two decimal places.

Qtr. Heading in center Alignment.

Apply Border to whole data.

- b. Calculate State and Qtr. Total

- c. Calculate Average for each quarter

- d. Calculate Amount=Rate\*Total.

2. Given the following worksheet

|   | A        | B         | C     | D     |
|---|----------|-----------|-------|-------|
| 1 | Roll No. | Name      | Marks | Grade |
| 2 | 1001     | Sachin    | 99    |       |
| 3 | 1002     | Sahwag    | 65    |       |
| 4 | 1003     | Rahul     | 41    |       |
| 5 | 1004     | Sourav    | 89    |       |
| 6 | 1005     | Harbhajan | 56    |       |

Calculate the grade of these students on the basis of following guidelines:

If Marks Then Grade

>=80 A+

>= 60 and <80

>= 50 and <60

<50

3. Given the following worksheet

|   | A        | B              | C    | D     | E     | F     | G          |
|---|----------|----------------|------|-------|-------|-------|------------|
| 1 | Salesman | Sales in (Rs.) |      |       |       |       |            |
| 2 | No.      | Qtr1           | Qtr2 | Qtr3  | Qtr4  | Total | Commission |
| 3 | S001     | 5000           | 8500 | 12000 | 9000  |       |            |
| 4 | S002     | 7000           | 4000 | 7500  | 11000 |       |            |
| 5 | S003     | 4000           | 9000 | 6500  | 8200  |       |            |
| 6 | S004     | 5500           | 6900 | 4500  | 10500 |       |            |
| 7 | S005     | 7400           | 8500 | 9200  | 8200  |       |            |
| 8 | S006     | 5300           | 7600 | 9800  | 6100  |       |            |

Calculate the commission earned by the salesman on the basis of following Candidates:

| If Total Sales     | Then Commission |
|--------------------|-----------------|
| <20000             | 0% of sales     |
| > 20000 and <25000 | 4% of sales     |
| > 25000 and <30000 | 5.5%of sales    |
| > 30000 and< 35000 | 8%of sales      |
| >=35000            | 11%of sales     |

The total sales are the sum of sales of all the four quarters.

4. Company XYZ Ltd. pays a monthly salary to its employees who consist of basic salary, allowances & deductions. The details of allowances and deductions are as follows:

- HRA Dependent on Basic
    - 30% of Basic if Basic<=1000
    - 25% of Basic if Basic>1000 & Basic<=3000
    - 20% of Basic if Basic>3000
    - DA Fixed for all employees, 30% of Basic
  - Conveyance Allowance (CA)
    - Rs.50/- if Basic is <=1000
    - Rs.75/- if Basic >1000 & Basic<=2000
    - Rs. 100 if Basic>2000
  - Entertainment Allowance (EA)
    - NIL if Basic is<=1000
    - Rs.100/-if Basic > 1000
  - Deductions
  - Provident Fund
    - 6% of Basic
  - Group Insurance Premium
    - Rs.40/-if Basic is <=1500
    - Rs.60/-if Basic > 1500 & Basic<=3000
    - Rs.80/-if Basic>3000
- Calculate the following:  
Gross Salary=Basic +HRA+ DA+ CA+ EA  
Total Deduction=Provident Fund + Group Insurance Premium  
Net Salary=Gross Salary-Total Deduction

5. Create Payment Table for a fixed Principal amount, variable rate of interests and time in the form at below:

|                    |    |    |    |    |    |
|--------------------|----|----|----|----|----|
| No. of Instalments | 5% | 6% | 7% | 8% | 9% |
|--------------------|----|----|----|----|----|

|   |    |    |    |    |    |
|---|----|----|----|----|----|
| 3 | XX | XX | XX | XX | XX |
| 4 | XX | XX | XX | XX | XX |
| 5 | XX | XX | XX | XX | XX |
| 6 | XX | XX | XX | XX | XX |

6. Use an array formula to calculate Simple Interest for given principal amounts given the rate of Interest and time

|                  |                 |
|------------------|-----------------|
| Rate of Interest | 8%              |
| Time             | 5Years          |
| Principal        | Simple Interest |
| 1000             | ?               |
| 18000            | ?               |
| 5200             | ?               |

7. The following table gives a year wise sale figure of five salesmen in Rs.

| Salesman | 2019  | 2020  | 2021   | 2022  |
|----------|-------|-------|--------|-------|
| S1       | 10000 | 12000 | 20000  | 50000 |
| S2       | 15000 | 18000 | 50000  | 60000 |
| S3       | 20000 | 22000 | 70000  | 70000 |
| S4       | 30000 | 30000 | 100000 | 80000 |
| S5       | 40000 | 45000 | 125000 | 90000 |

- Calculate total sale year wise.
  - Calculate the net sale made by each salesman
  - Calculate the maximum sale made by the salesman
  - Calculate the commission for each salesman under the condition.
    - If total sales > 4, 00,000 give 5% commission on total sale made by the salesman.
    - Otherwise give 2% commission.
  - Draw a bar graph representing the sale made by each salesman.
  - Draw a pie graph representing the sale made by a salesman in 2000.
8. Generate 25 random numbers between 0 & 100 and find their sum, average and count. How many no. are in the range 50-60.

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## MS-Power Point

- Do the following task:
  - Start a new blank presentation
  - Your first Slide is going to be a Title Slide
  - Write the Text as in the preview below:
    - Lighthouse Co Ltd
    - Make the Font of "Lighthouse" Arial Black and size 88
  - Insert a second slide this should be with a layout of Bulleted List
  - Write the Text as in preview below
  - [Title]: Lighthouse Co Ltd
  - [Body]:
    - Mission Statement

- vii. Company Objectives
- viii. Management Team
- ix. Employees
- x. Sales

Make the Font Color of the Points to Green

Insert a third slide that should be an Organization Chart.

Include the following people in the chart:

- a. David Brent, General Manager
- b. Tim Canterbury, Head of Sales
- c. Gareth Keenan, Assistant to the General Manager
- d. Dawn Tinsley, Human Resources Manager

Add a fourth slide and this should be a Table Chart.

The chart should look like the following:

| New Products               | Discontinued Products    |
|----------------------------|--------------------------|
| Digital Cameras            | 8mm Cameras              |
| Ultra Slim Video Camera    | 8x Zoom Video Camera     |
| 25" Plasma TVs             | Black and White TVs      |
| DVD Recorders              | Video Players            |
| 7.1 Dolby Surround Systems | 2 channel stereo systems |

Make the titles New Products and Discontinued Products with a shadow effect and centered in the cell. Widen columns to fit Text as above.

The Fifth slide should be a Chart slide. The chart should be a bar chart, and include the following data must be used to form the chart:

|                 | January | February | March | April |
|-----------------|---------|----------|-------|-------|
| TVs             | 10      | 15       | 32    | 45    |
| DVDs            | 25      | 56       | 55    | 40    |
| Wifi equipments | 35      | 45       | 25    | 30    |
| Video Recorders | 20      | 25       | 10    | 15    |

- Change the colours of the chart so that the series of bars are red, yellow, pink, and
- Add a light coloured background to all slides in the presentation.
- Add also Transition effects between each slide and also different effects for all text and pictures in the presentation.
- Reverse the order of the second and third slides
- Save the presentation as Light House Ltd.

2. Do the following:

Load your Presentation Application and start a new presentation

- The first slide is a Title Slide. Select the appropriate layout and enter the title:

Annual Food Fair

- Add the subtitle: .A Celebration of Eating

Insert a small, red circle at the bottom right of the title slide.

- Change the font color for the whole title and subtitle to blue, and apply a text shadow effect just to the words Food and Fair

- Insert a second slide to the presentation, selecting a layout appropriate for a series of bullet points, and using the title: The Menu. Enter the following text:

- i. Chocolate Desserts
- ii. Cakes and Puddings
- iii. Roast Meals
- iv. Using Pasta Creatively

Change the line spacing for these bullet points to 1.5 lines.

- Increase the font size for the words The Menu in the title.

Add a footer with your name and the text: Food Fair so they both appear on every slide, and number all the slides. (Make sure the number is not obscured by the red circle on the title slide)

- Insert a third slide, which is to be an organization chart. Use the title Meet the Team. Enter: Maggie Peet, Manager at the top of the chart, and show the following three as reporting to Maggie Peet: Brian Webb, Bookings; Janine Newton, Publicity; Gregg Brown, Accounts

Embolden the text in the title of the third slide, and change the font to Arial.

- Apply a light coloured background to al the slides in the presentation
- On the third slide, insert an image suitable for the topic of food from an image library. Reduce the size of the image and place it where it will not interfere with text .
- Save the presentation as food fair
- Print the presentation with three slides per page, and close the presentation.

3. Do the followings:

Load your Presentation Application and start a new presentation

- The first slide is a Title Only Slide. Select the appropriate layout and enter the title: Cook Family Cruises.
- Add a small blue rectangle at the top left of this slide.
- Change the font color for the whole title to red, and apply a text shadow effect just to the word Cruises.
- Insert a second slide to the presentation, selecting a layout appropriate for a series of bullet points, and using the title: Our Itinerary. Enter the following text:
  - d. Canary Islands
  - e. Mediterranean
  - f. Greek Islands
- Change the line spacing for these bullet points to 2 lines. Increase the font size of the word Itinerary in the title. Add a footer with your name and the text: Cruise Information so they both appear on every slide, and number all the slides.
- Insert a third slide, which is to be a graph. Use the title Our Market Share. Use the following data to produce a pie chart: Cook 54%; Jackson 28%; Wilson 12%; Bennett 5 %

Embolden the text in the title of the third slide, and change the font to Arial.

- Apply a different background to each slide in the presentation.
- On the third slide, insert an image suitable for the topic of holidays from an image library. Reduce the size of the image and place it where it will not interfere with
- Add a 4-slide containing nothing but the text: Travel with us for less!!
- Save the presentation as a holiday.
- Print the presentation with 4 slides per page, and close the presentation.

4. Creating an animation looks like the leaf is falling in a tree.

5. Creating an animation looks like demolishing a world trade center in America.

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## MS-Access

1. Create a database named "college" and perform the following tasks:
  - A. Create a table named "student" having following fields:
 

| Field Name | Data type | Description |
|------------|-----------|-------------|
| Class      |           |             |
| Roll no    |           |             |
| Name       |           |             |
  - B. Fill at least 5 records.
  - C. Prepare a query to display all records and Name should be in ascending order.
2. Create the employee table in MS-Access with the referential integrity-foreign key.

## Part - C

### Learning Resource: Text Books, Reference Books, Others

#### Text Books Recommended-

- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.

#### Reference Books Recommended:

- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.
- OFFICE 2013 in Simple Steps, Kogent Solution Inc., DremTech Press.
- Access 2010 in Simple Steps by Kogent Learning Solutions Inc

#### E-resources:

- Introduction to MS-Word from W3school:  
<https://www.w3schools.blog/ms-word-tutorial>
- Introduction to MS-Excel from W3school:  
[https://www.w3schools.com/excel/excel\\_introduction.php](https://www.w3schools.com/excel/excel_introduction.php)
- Introduction to MS-PowerPoint from W3school:  
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:  
[https://www.w3schools.com/sql/sql\\_ref\\_msaccess.asp](https://www.w3schools.com/sql/sql_ref_msaccess.asp)
- Microsoft Office (in Hindi):  
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-GkNotesPDF-com>.
- MS-OFFICE:  
<https://www.rgyesm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:  
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>, Microsoft Office Full Crash Course: <https://www.youtube.com/watch?v=SH4oyV5AJ6A>

|                                                                |                                                                                                                                                        |                                                                                                             |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>PART -D:Assessment andEvaluation -Practical</b>             |                                                                                                                                                        |                                                                                                             |
| <b>Suggested Continuous Evaluation Methods:</b>                |                                                                                                                                                        |                                                                                                             |
| Maximum Marks: 100 Marks                                       |                                                                                                                                                        |                                                                                                             |
| Continuous Internal Assessment(CIA): 30 Marks                  |                                                                                                                                                        |                                                                                                             |
| End Semester Exam (ESE): 70 Marks                              |                                                                                                                                                        |                                                                                                             |
| <b>Continuous InternalAssessment (CIA): (By CourseTeacher)</b> | Internal Test / Quiz-(2): 20 +20<br>Assignment / Seminar+ Attendance - 10<br>Total Marks - 30                                                          | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks |
| <b>End Semester Exam (ESE):</b>                                | <b>Laboratory / Field Skill Performance: On spot Assessment</b><br>G. practical work - 40 Marks<br>H. Lab record – 10 Marks<br>I. Viva-voce - 20 Marks | Managed by Course teacher as per lab. status                                                                |

**Name and Signature of Convener & Members of CBoS:**

**Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |                        |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------|
| Program: Diploma in Computer Application                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Semester: I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          | Session:2024-2025      |
| 1                                                                                  | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CADC-03T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |                        |
| 2                                                                                  | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Programming in C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                        |
| 3                                                                                  | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |                        |
| 4                                                                                  | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | As per Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |                        |
| 5                                                                                  | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | After completing this course, the students will be able to: <ul style="list-style-type: none"><li>Identify situations where computational methods and computers would be useful.</li><li>Given a computational problem, identify and abstract the programming task involved.</li><li>Develop programming skill and learn how to implement a new software.</li><li>Develop programming and logical concepts which helps to build up source code of concern programming language.</li><li>Understand the concept of programming like Compilation. Debugging, Executing. Linking and Loading.</li><li>Familiar about the structure of C and C++ program.</li></ul> |                                          |                        |
| 6                                                                                  | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4 Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (Credit=15 hours-learning & observation) |                        |
| 7                                                                                  | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          | Min Passing Marks : 40 |
| PART- B: CONTENT OF THE COURSE                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |                        |
| Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |                        |
| Unit                                                                               | Topics (Course Contents)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          | No. of Period          |
| I                                                                                  | <b>Programming Languages</b> - Introduction & History, Types of Programming Languages - Low Level, Middle Level & High Level Languages, Generations of Languages; Language Translator - Assembler, Compiler, Interpreter, Concept of Flow Chart & Algorithms.<br><b>Introduction to C:</b> C programming structure and C compiler, Data representation: Simple data types like real, integer, character etc. Program, statements and Header Files, Simple Input Output statements in C, Running Simple C programs. Primitive data types in C, char, integer, float, Double Long, Double Void etc. Operators and Expressions - Arithmetic Operators, Assignment Operators, increment and decrement operator, relational and Boolean operators, Mixing of Different data types and operators for forming expressions. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          | 15                     |
| II                                                                                 | <b>Control Structure:</b> If - statement, If -else statement, Multiway decision, Compound Statement, Loops: For - loop, While -loop, Do-While loop, Break statement, Switch statement, Continue statement, Goto statement.<br><b>Functions:</b> Function main, Functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion comparisons of Iteration and recursion                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          | 15                     |

|                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|                                                                                                                                                                                                                                                                                                                                                                                   | variable length argument list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |
| III                                                                                                                                                                                                                                                                                                                                                                               | <b>Arrays</b> , Strings, Multidimensional Arrays, Strings, Array of Strings, Function in String.<br><b>Pointers:</b> Definition and, use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.                                                                                                                                                                      | 15 |
| IV                                                                                                                                                                                                                                                                                                                                                                                | <b>Structure and Union</b> , Declaring and using Structure, Structure intialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure, Creating user defined data type, pointer to Structure and function. Union, difference between Union and Structure, Operations on Union, Scope of Union.<br><b>Dynamic memory allocation</b> , Library function for Dynamic memory allocation, Dynamic Multi-Dimensional arrays, Self-referential structure. File: - Introduction, Structure, File handling, Functions file types, Unbuffered and buffered file, Error handling. Low level file Input- Output. | 15 |
| Keywords                                                                                                                                                                                                                                                                                                                                                                          | Token, datatype, Operators, Functions, Class, Inheritance, Polymorphism.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |
| Name and Signature of Convener & Member of BoS:                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
|                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
| <b>Part - C : Learning Resources</b>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
| <b>Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
| <b>Text Books Recommended-</b> <ul style="list-style-type: none"><li>Let us C: Yashwant Kanetkar, BPB Publications.</li><li>Programming in ANSI C, E. Balaguruswamy, Tata McGraw Hill</li></ul>                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
| <b>Reference Books Recommended:</b> <ul style="list-style-type: none"><li>Program Design, Peter Juliff, PHI Publications</li></ul>                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
| <b>E-resources:</b> <ul style="list-style-type: none"><li><b>C different topics from W3School</b><br/><a href="https://www.w3schools.com/c/">https://www.w3schools.com/c/</a></li><li><b>C different topics from Javatpoint</b><br/><a href="https://www.javatpoint.com/c-programming-language-tutorial">https://www.javatpoint.com/c-programming-language-tutorial</a></li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
|                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |

|                                                                     |                                                                                                                                                                                                                                        |                                                                                                                    |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>PART -D: Assessment and Evaluation -Theory</b>                   |                                                                                                                                                                                                                                        |                                                                                                                    |
| <b>Suggested Continuous Evaluation Methods:</b>                     |                                                                                                                                                                                                                                        |                                                                                                                    |
| Maximum Marks: <b>100 Marks</b>                                     |                                                                                                                                                                                                                                        |                                                                                                                    |
| Continuous Internal Assessment(CIA): <b>30 Marks</b>                |                                                                                                                                                                                                                                        |                                                                                                                    |
| End Semester Exam (ESE): <b>70 Marks</b>                            |                                                                                                                                                                                                                                        |                                                                                                                    |
| <b>Continuous Internal Assessment (CIA):<br/>(By CourseTeacher)</b> | Internal Test / Quiz-(2): <b>20 +20</b><br>Assignment / Seminar - <b>10</b><br>Total Marks - <b>30</b>                                                                                                                                 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against <b>30 Marks</b> |
| <b>End Semester Exam (ESE):</b>                                     | <b>Two section – A &amp; B</b><br><b>Section A:</b><br><b>Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20Marks</b><br><b>Section B:</b><br>Descriptive answer type qts., <b>1 out of 2 from each unit-4x10=40 Marks</b> |                                                                                                                    |

**Name and Signature of Convener & Members of BoS:**

**Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------|
| Program :Post Graduate Diploma in Computer Application                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Semester: I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                | Session:2024-2025     |
| 1                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CADC-03P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                |                       |
| 2                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Programming in C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |                       |
| 3                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Discipline Specific Course (practical)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                       |
| 4                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | As per Syllabus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
| 5                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | After completing this course, the students will be able to: <ul style="list-style-type: none"><li>Identify situations where computational methods and computers would be useful.</li><li>Given a computational problem, identify and abstract the programming task involved.</li><li>Develop programming skill and learn how to implement a new software.</li><li>Develop programming and logical concepts which helps to build up source code of concern programming language.</li><li>Familiar about the structure of C program.</li></ul> |                                |                       |
| 6                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4 Credit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (1 Credit=15 hours Laboratory) |                       |
| 7                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Max. Marks: 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                | Min Passing Marks: 40 |
| Part B: Content of the Course                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
| Total No. of learning-Training/performance Periods: 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
| Module                                                                    | Note: This is tentative list; the teachers concern can add more program as per requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
| Lab./ Experiment Contents of Course,                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
|                                                                           | 1. Write a program in C for addition of two numbers using float data type.<br>2. Write a program in C to find the biggest number between two numbers.<br>3. Write a program in C to find the factorial value of any entered number using do while loop.<br>4. Write a program in C for various arithmetic operations using switch case statements.<br>5. Write a program in C for Multiplication of two 3X3 matrix.<br>6. Write a program in C to store five books information using structure.<br>7. Write a program in C to store six employee information using union.<br>8. Write a program in C to calculate simple interest using call by value and call by reference method.<br>9- Write a program to demonstrate work of malloc(), realloc() and free().<br>10. Write a program in C to print structure like this<br>1<br>12<br>123<br>1234<br>12345<br>11. WAP to display Fibonacci series (i) using recursion, (ii) using iteration |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12.WAP to calculate Factorial of a number (1) using recursion, (ii) using iteration<br>13. WAP to calculate GCD of two numbers (1) with recursion (ii) without recursion.<br>14. Write a program in C to show different operators.<br>15. Write a program in C for string function.<br>16. Write a program in C for pointer arithmetic.<br>17. Write a program in C to show pointer to pointer.<br>18. Write a program in C to check given year is leap year or not.<br>19. Write a program in C to check given no is even or odd.<br>20. Write a program in C to check given no is prime no or not.<br>21. Write a program in C to check given no Armstrong no or not.<br>22. Write a program in C to print prime no series up to 1000. |
| <b>Part - C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Learning Resource: Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Text Books Recommended-</b> <ul style="list-style-type: none"> <li>Let us C: Yashwant Kanetkar, BPB Publications.</li> <li>Programming in ANSI C, E. Balaguruswamy, Tata McGraw Hill</li> </ul> <b>Reference Books Recommended:</b> <ul style="list-style-type: none"> <li>Program Design, Peter Juliff, PHI Publications</li> </ul> <b>E-resources:</b> <ul style="list-style-type: none"> <li>C different topics from SWAYAM/NPTEL</li> <li>Introduction<br/> <a href="https://onlinecourses.nptel.ac.in/noc19_cs38/preview">https://onlinecourses.nptel.ac.in/noc19_cs38/preview</a><br/> <a href="https://onlinecourses.nptel.ac.in/noc22_cs103/preview">https://onlinecourses.nptel.ac.in/noc22_cs103/preview</a><br/> <a href="https://www.youtube.com/watch?v=KG4hjVDw-p8&amp;list=PLmp4ylk-B4KrM9uOEbvPIVFUkU3jNc6D2&amp;index=2">https://www.youtube.com/watch?v=KG4hjVDw-p8&amp;list=PLmp4ylk-B4KrM9uOEbvPIVFUkU3jNc6D2&amp;index=2</a> </li> <li>C different topics from Javatpoint<br/> <a href="https://www.javatpoint.com/c-programming-language-tutorial">https://www.javatpoint.com/c-programming-language-tutorial</a> </li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| <b>PART -D: Assessment and Evaluation -Practical</b>             |                                                                                                                                                        |                                                                                                             |
| <b>Suggested Continuous Evaluation Methods:</b>                  |                                                                                                                                                        |                                                                                                             |
| Maximum Marks: 100 Marks                                         |                                                                                                                                                        |                                                                                                             |
| Continuous Internal Assessment(CIA): 30 Marks                    |                                                                                                                                                        |                                                                                                             |
| End Semester Exam (ESE): 70 Marks                                |                                                                                                                                                        |                                                                                                             |
| <b>Continuous Internal Assessment (CIA): (By Course Teacher)</b> | Internal Test / Quiz-(2): 20 +20<br>Assignment / Seminar+ Attendance - 10<br>Total Marks - 30                                                          | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks |
| <b>End Semester Exam (ESE):</b>                                  | <b>Laboratory / Field Skill Performance: On spot Assessment</b><br>J. practical work - 40 Marks<br>K. Lab record – 10 Marks<br>L. Viva-voce - 20 Marks | Managed by Course teacher as per lab. status                                                                |

**Name and Signature of Convener & Members of CBoS:**

**Post Graduate Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                               |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                   |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------|
| Program: Post Graduate<br>Diploma in Computer<br>Application                       |                                                                                                                                                                                                                                                                                                                                                                                              | Semester: II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          | Session:2024-2025 |
| 1                                                                                  | Course Code                                                                                                                                                                                                                                                                                                                                                                                  | CADC-09T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |                   |
| 2                                                                                  | Course Title                                                                                                                                                                                                                                                                                                                                                                                 | Programming in Python                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |                   |
| 3                                                                                  | Course Type                                                                                                                                                                                                                                                                                                                                                                                  | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                   |
| 4                                                                                  | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                        | As per Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                   |
| 5                                                                                  | Course Learning<br>Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                            | After completing this course, the students will be able to:<br>1) Define the structure and components of a Python program.<br>2) Demonstrate proficiency in handling of loops and creation of functions. Identify the methods to create and manipulate lists, tuples and dictionaries.<br>3) Discover the commonly used operations involving regular expressions and file system.<br>4) Determine the need for scraping websites and working with CSV, JSON and other file formats.<br>5) Interpret the concepts of Object-Oriented Programming as used in Python. |                                          |                   |
| 6                                                                                  | Credit Value                                                                                                                                                                                                                                                                                                                                                                                 | 4 Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (Credit=15 hours-learning & observation) |                   |
| 7                                                                                  | Total Marks                                                                                                                                                                                                                                                                                                                                                                                  | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Min Passing Marks : 40                   |                   |
| PART- B: CONTENT OF THE COURSE                                                     |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                   |
| Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                   |
| Unit                                                                               | Topics (Course Contents)                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | No. of<br>Period  |
| I                                                                                  | Introduction to Python Programming Language: Introduction and history, Features, Installing Python, basic syntax, interactive shell and script mode, editing saving and running a script; Variables, keywords, Data Types: fundamental data types, mutable and immutable data types, Operators in Python, input and output statements, comments in the program, understanding error messages |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | 15                |
| II                                                                                 | Lists, Tuples and Dictionaries and Control statements: Control Statements (Branching: if-else, Nested if-else, Looping, Conditional Statement, Exit function, Difference between break, continue and pass). Lists, Tuples Dictionaries and String Operation.                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | 15                |
| III                                                                                | Introducing Classes and Objects: Class Fundamentals, Declaring Object, Constructors, Defining Methods, method overloading, Inheritance: Inheritance basic and types, Member accessibility modifier: public, protected, private. Python Exceptions Handling: Exception Basics, Handling an exception, try....except...else, try-finally clause.                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | 15                |
| IV                                                                                 | Data Handling using The Numerical Python Library (NumPy) and File Operations : Python packages, Introduction to PIP, Installing Packages via PIP, Introduction to NumPy library, NumPy arrays and their advantage, NumPy                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | 15                |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Attributes and Mathematical, Binary and String Functions, creation of NumPy arrays; from lists using np.array(), np.zeros(), np.ones(), np.arange(), basic slicing and indexing ; concatenating and splitting array;<br>Arithmetic operations on one dimensional and two dimensional arrays. Calculating max, min, count, sum, mean, median, mode, standard deviation on NumPy arrays.<br><b>Python File Operations:</b> Reading files, Writing files in python, Understanding read functions, read, readline. Understanding write functions, write and writelines. |  |
| Keywords                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Lists, Tuples, Dictionaries, Exceptions Handling ,NumPy, PIP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Name and Signature of Convener & Member of BoS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>Part - C : Learning Resources</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>Text Books Recommended-</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <ul style="list-style-type: none"><li>• T. Budd, Exploring Python, TMH, 1st Ed, 2011</li><li>• Allen Downey, Jeffrey Elkner, Chris Meyers, How to think like a computer scientist: Learning with Pyth, Freelyavailableonline.2012</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>Reference Books Recommended:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <ul style="list-style-type: none"><li>• Luca Massaron John Paul Mueller, Python for Data Science For Dummies, Wiley, 2ed, 2019</li><li>• Allen B. Downey, Think Python: How to Think Like a Computer Scientist, 2nd edition by O'Reilly, 2015</li><li>• Zed A. Shaw, Learn Python 3 the Hard Way (Addison-Wesley, 2016)</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>E-resources:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <ul style="list-style-type: none"><li>• 1. NPTEL URL link for Python Programming:<br/><a href="https://www.youtube.com/watch?v=eoPsX7MKfe8&amp;list=PLIdgECt554OVFKXRpokul0XpUQKk0ycO">https://www.youtube.com/watch?v=eoPsX7MKfe8&amp;list=PLIdgECt554OVFKXRpokul0XpUQKk0ycO</a></li><li>• Complete NPTEL link for Basic Python Programming:<br/><a href="https://www.youtube.com/watch?v=Y3Ri2GdYfYg&amp;list=PLqftY2uRk7oXvERQEGATSr-KzAh8WLWD">https://www.youtube.com/watch?v=Y3Ri2GdYfYg&amp;list=PLqftY2uRk7oXvERQEGATSr-KzAh8WLWD</a></li><li>• File Handling: <a href="https://www.w3schools.com/python/python_file_handling.asp">https://www.w3schools.com/python/python_file_handling.asp</a></li><li>• NumPy: <a href="https://www.w3schools.com/python/numpy/default.asp">https://www.w3schools.com/python/numpy/default.asp</a></li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |

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| <b>PART -D: Assessment and Evaluation - Theory</b>                                                                                                                                      |                                                                                                                                                                                                                                                             |                                                                                                                    |
| <b>Suggested Continuous Evaluation Methods:</b><br>Maximum Marks: <b>100 Marks</b><br>Continuous Internal Assessment(CIA): <b>30 Marks</b><br>End Semester Exam (ESE) : <b>70 Marks</b> |                                                                                                                                                                                                                                                             |                                                                                                                    |
| <b>Continuous Internal Assessment (CIA):<br/>(By Course Teacher)</b>                                                                                                                    | Internal Test / Quiz-(2)- <b>20 +20</b><br>Assignment / Seminar - <b>10</b><br>Total Marks - <b>30</b>                                                                                                                                                      | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against <b>30 Marks</b> |
| <b>End Semester Exam (ESE):</b>                                                                                                                                                         | <b>Two section – A &amp; B</b><br><b>Section A:</b><br>Q1. Objective – <b>10 x1= 10 Marks ;</b><br>Q2. Short answer type- <b>5x4 =20 Marks .</b><br><b>Section B:</b><br>Descriptive answer type questions., <b>1 out of 2 from each unit-4x10=40 Marks</b> |                                                                                                                    |

**Name and Signature of Convener & Members of BoS:**

**Post Graduate Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                       |
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| Program :Post Graduate Diploma in Computer Application                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Semester: II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                | Session:2024-2025     |
| 1                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | CADC-09P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                |                       |
| 2                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Programming in Python                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                       |
| 3                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Discipline Specific Course (practical)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |                       |
| 4                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | As per Syllabus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                       |
| 5                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | After completing this course, the students will be able to:<br>1) Define the structure and components of a Python program.<br>2) Demonstrate proficiency in handling of loops and creation of functions. Identify the methods to create and manipulate lists, tuples and dictionaries.<br>3) Discover the commonly used operations involving regular expressions and file system.<br>4) Determine the need for scraping websites and working with CSV, JSON and other file formats.<br>5) Interpret the concepts of Object-Oriented Programming as used in Python. |                                |                       |
| 6                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 4 Credit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (1 Credit=15 hours Laboratory) |                       |
| 7                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Max. Marks: 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | Min Passing Marks: 40 |
| Part B: Content of the Course                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                       |
| Total No. of learning-Training/performance Periods: 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                       |
| Lab./ Experiment Contents of Course,                                      | Topics (Course contents)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                       |
|                                                                           | Note: This is tentative list; the teachers concern can add more program as per requirement.<br>1. Python program to find the union of two lists.<br>2. Python program to find the intersection of two lists.<br>3. Using for loop, print a table of Celsius/Fahrenheit equivalences. Let e be the Celsius temperatures ranging from 0 to 100, for each value of c, print the corresponding Fahrenheit temperature.<br>4. Using while loop, produce a table of sins, cosines and tangents. Make a variable x in range from 0 to 10 in steps of 0.2. For each value of x, print the value of sin(x), cos(x) and tan(x).<br>5. Write a program that reads an integer value and prints-leap year or not a leap year.<br>6. Write a program that takes a positive integer n and then produces n lines of output shown as follows.<br>For example, enter a size: 5<br>*<br>* *<br>* * *<br>* * * *<br>* * * * * |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                       |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|          | <p>7. Write a function that takes an integer n as input and calculates the value of <math>1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \dots + \frac{1}{n!}</math>.</p> <p>8. Write a function that takes an integer input and calculates the factorial of that number.</p> <p>9. Write a function that takes a string input and checks if it's a palindrome or not.</p> <p>10. Write a list function to convert a string into a list, as in list (abc) gives [a, b, c].</p> <p>11. Write a program to generate Fibonacci series.</p> <p>12. Write a program to check whether the input number is even or odd.</p> <p>13. Write a program to compare three numbers and print the largest one.</p> <p>14. Write a program to print factors of a given number.</p> <p>15. Write a method to calculate GCD of two numbers.</p> <p>16. Write a program to create Stack Class and implement all its methods. (Use Lists).</p> <p>17. Write a program to create Queue Class and implement all its methods. (Use Lists)</p> <p>18. Write a program to implement linear and binary search on lists.</p> <p>19. Write a program to sort a list using insertion sort and bubble sort.</p> <p>20. Python program to remove the "i" th occurrence of the given word in a list where words repeat.</p> <p>21. Python program to count the occurrences of each word in a given string sentence.</p> <p>22. Python program to check if a substring is present in a given string</p> <p>23. Python program to map two lists into a dictionary.</p> <p>24. Python program to count the frequency of words appearing in a string using a dictionary.</p> <p>25. Python program to create a dictionary with key as first character and value as words starting with that character</p> <p>26. Python program to find the length of a list using recursion</p> <p>27. Python program to read a file and capitalize the first letter of every word in the file.</p> <p>28. Python program to read the contents of a file in reverse order.</p> <p>29. Python program to create a class in which one method accepts a string from the user and another prints it.</p> <p>30 Study and implementations of Database, Structured Query Language and database connectivity.</p> |
| Keywords | Lists, Tuples, Dictionaries, Exceptions Handling , NumPy, PIP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

**Name and Signature of Convener & Members of BoS:**

| Part - C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
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| Learning Resource: Text Books, Reference Books, Others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <b>Text Books Recommended-</b> <ul style="list-style-type: none"> <li>T. Budd, Exploring Python, TMH, 1st Ed, 2011</li> <li>Allen Downey, Jeffrey Elkner, Chris Meyers, How to think like a computer scientist: Learning with Pyth, Freelyavailableonline.2012</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| <b>Reference Books Recommended:</b> <ul style="list-style-type: none"> <li>Luca Massaron John Paul Mueller, Python for Data Science For Dummies, Wiley, 2ed, 2019</li> <li>Allen B. Downey, Think Python: How to Think Like a Computer Scientist, 2nd edition by O'Reilly, 2015</li> <li>Zed A. Shaw, Learn Python 3 the Hard Way (Addison-Wesley, 2016)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| <b>E-resources:</b> <ul style="list-style-type: none"> <li>1. NPTEL URL link for Python Programming:<br/><a href="https://www.youtube.com/watch?v=eoPsX7MKfe8&amp;list=PLIdgECt554OVFKXRpo kul0Xp UQKk0ycO">https://www.youtube.com/watch?v=eoPsX7MKfe8&amp;list=PLIdgECt554OVFKXRpo kul0Xp UQKk0ycO</a></li> <li>Complete NPTEL link for Basic Python Programming:<br/><a href="https://www.youtube.com/watch?v=Y3Ri2GdYfYg&amp;list=PLqftY2uRk7oXvERQEg ATSr-KzAh8WLWD">https://www.youtube.com/watch?v=Y3Ri2GdYfYg&amp;list=PLqftY2uRk7oXvERQEg ATSr-KzAh8WLWD</a></li> <li>File Handling: <a href="https://www.w3schools.com/python/python_file_handling.asp">https://www.w3schools.com/python/python_file_handling.asp</a></li> <li>NumPy: <a href="https://www.w3schools.com/python/numpy/default.asp">https://www.w3schools.com/python/numpy/default.asp</a></li> </ul> |  |

| PART -D:AssessmentandEvaluation -Practical                           |                                                                                                                                                        |                                                                                                             |
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| <b>Suggested Continuous Evaluation Methods:</b>                      |                                                                                                                                                        |                                                                                                             |
| Maximum Marks:                                                       |                                                                                                                                                        | <b>100 Marks</b>                                                                                            |
| Continuous Internal Assessment(CIA):                                 |                                                                                                                                                        | <b>30 Marks</b>                                                                                             |
| End Semester Exam (ESE):                                             |                                                                                                                                                        | <b>70 Marks</b>                                                                                             |
| <b>Continuous Internal Assessment (CIA):<br/>(By Course Teacher)</b> | Internal Test / Quiz-(2): 20 +20<br>Assignment / Seminar+ Attendance - 10<br>Total Marks - 30                                                          | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks |
| <b>End Semester Exam (ESE):</b>                                      | <b>Laboratory / Field Skill Performance: On spot Assessment</b><br>A. practical work - 40 Marks<br>B. Lab record – 10 Marks<br>C. Viva-voce - 20 Marks | Managed by Course teacher as per lab. status                                                                |

Name and Signature of Convener & Members of BoS:

**Post Graduate Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| <b>PART-A: Introduction</b>                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           |                                          |
|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Program: Post Graduate<br>Diploma in Computer<br>Application                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Semester: II</b>                                                                                                                                                                                                                                                                                                                                                       | <b>Session:2024-2025</b>                 |
| 1                                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>CADC-10T</b>                                                                                                                                                                                                                                                                                                                                                           |                                          |
| 2                                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>DBMS</b>                                                                                                                                                                                                                                                                                                                                                               |                                          |
| 3                                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                                                                       |                                          |
| 4                                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | As per Program                                                                                                                                                                                                                                                                                                                                                            |                                          |
| 5                                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | After completing this course, the students will be able to:<br>1)Learn about Database Concepts, Architecture, variola Users, Data Models and Data Management.<br>2)Familiar with DBMS Software like Oracle and MySql.<br>3)Create various Tables and Databases.<br>4)Explore various SQL, commands.<br>5)Create Database on the basis of E-R diagrams for Minor and Major |                                          |
| 6                                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4 Credits                                                                                                                                                                                                                                                                                                                                                                 | (Credit=15 hours-learning & observation) |
| 7                                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                                                                    | Min Passing Marks : 40                   |
| <b>PART- B: CONTENT OF THE COURSE</b>                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           |                                          |
| <b>Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           |                                          |
| <b>Unit</b>                                                                               | <b>Topics (Course Contents)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           | <b>No. of Period</b>                     |
| I                                                                                         | <b>Introduction To DBMS:</b> Database, Purpose of database systems, introduction to DBMS, Features, architecture of DBMS, Comparison with file system, Data Independence, Data abstraction, Schema and its types, views of data, Data Model, Database Languages, Database Administrator and User,                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                           | 15                                       |
| II                                                                                        | <b>E-R Model:</b> Entity and Entity Set, Entity Types, attributes and its types, relationship and its types, Participation, ER diagrams; Case studies of ER model, Generalization, specialization and aggregation. Converting an ER model into relational Schema, Concept of keys, different types of keys.<br><b>Relational Algebra:</b> Introduction to relational algebra, Fundamental and other operations, Join and its types, set operations, Tuple relational calculus, Domain relational calculus. |                                                                                                                                                                                                                                                                                                                                                                           | 15                                       |
| III                                                                                       | <b>Relational Database Design:</b> Normalization concept; Pitfalls in database design, different anomalies, Functional dependencies, Join dependencies, Normal forms (1NF, 2NF, 3NF), Boyce Codd Normal form, Decomposition, Multi-Valued Dependencies, 4NF, 5NF, De-Normalization.                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                           | 15                                       |
| IV                                                                                        | <b>Introduction to SQL/Oracle</b><br>Introduction to Oracle, Data Types, SQL and its features,DDL and DML: Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries. Views: What is Views, Create, Drop and Retrieving data from                                                                                   |                                                                                                                                                                                                                                                                                                                                                                           | 15                                       |

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|                                                 | views. Security: Management of Roles, Changing Password, Granting Roles & Privilege, with drawing privileges |  |
| Keywords                                        | DBMS,ER-Model, Normalization, Relational Algebra, TRC, DRC, SQL ,Oracle.                                     |  |
| Name and Signature of Convener & Member of BoS: |                                                                                                              |  |
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| <b>PART -D:Assessment and Evaluation -Theory</b>                     |                                                                                                                                                                                                                                                                     |                                                                                                                           |
| <b>Suggested Continuous Evaluation Methods:</b>                      |                                                                                                                                                                                                                                                                     |                                                                                                                           |
| Maximum Marks: <b>100 Marks</b>                                      |                                                                                                                                                                                                                                                                     |                                                                                                                           |
| Continuous Internal Assessment(CIA): <b>30 Marks</b>                 |                                                                                                                                                                                                                                                                     |                                                                                                                           |
| End Semester Exam (ESE): <b>70 Marks</b>                             |                                                                                                                                                                                                                                                                     |                                                                                                                           |
| <b>Continuous Internal Assessment (CIA):<br/>(By Course Teacher)</b> | Internal Test / Quiz-(2): <b>20 +20</b><br>Assignment / Seminar - <b>10</b><br>Total Marks - <b>30</b>                                                                                                                                                              | Better marks out of the two Test / Quiz <b>+</b> obtained marks in Assignment shall be considered against <b>30 Marks</b> |
| <b>End Semester Exam (ESE):</b>                                      | <b>Two section – A &amp; B</b><br><b>Section A:</b><br><b>Q1.</b> Objective – <b>10 x1= 10 Mark</b> ; <b>Q2.</b> Short answer type- <b>5x4 =20Marks</b><br><b>Section B:</b><br>Descriptive answer type qts., <b>1out of 2</b> from each unit- <b>4x10=40 Marks</b> |                                                                                                                           |

**Name and Signature of Convener & Members of BoS:**

**Post Graduate Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| <b>PART-A: Introduction</b>                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Program: Post Graduate<br>Diploma in Computer<br>Application                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Semester: II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Session:2024-2025</b>                 |
| 1                                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>CADC-11T</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| 2                                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Web Technology</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |
| 3                                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Discipline Specific Course (Theory)                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| 4                                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | As per Program                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |
| 5                                                                                         | Course Learning<br>Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | After completing this course, the students will be able to: <ul style="list-style-type: none"> <li>Analyze a web page and identify its elements and attributes.</li> <li>Create web pages using HTML, CSS, JAVASCRIPT.</li> <li>Design and develop web applications.</li> <li>Explain client and server-side scripting and their applicability.</li> <li>Create scripts using JavaScript in a web page.</li> <li>Integrate JavaScript in a web page.</li> </ul> |                                          |
| 6                                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4 Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (Credit=15 hours-learning & observation) |
| 7                                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Max. Marks: 100(70+30)                                                                                                                                                                                                                                                                                                                                                                                                                                          | Min Passing Marks : 40                   |
| <b>PART- B: CONTENT OF THE COURSE</b>                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| <b>Total No. of Teaching-learning Periods (01 hour per period)- 60 Periods (60 Hours)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| <b>Unit</b>                                                                               | <b>Topics (Course Contents)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>No. of<br/>Period</b>                 |
| I                                                                                         | <b>Internet and its Application:</b> Evolution of internet, Internet applications, Intranet and Internet, Addressing in Internet (IP), Domains, Internet service providers, Concept of Web Page and website, Website Publishing.<br><b>Protocol:</b> Introduction of protocol, File Transfer Protocol (FTP), Types of FTP servers, Telnet protocol, Telnet client, HTTP, SMTP, POP                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 15                                       |
| II                                                                                        | <b>HTML:</b> Introduction, Structure of HTML, Basic formatting tags: heading, paragraph, line break, bold, italic, underline, superscript, subscript, font and image. Different attributes like align, color, bgcolor, font face, border, size. Navigation Links using anchor tag: internal, external, mail and image links, Link to different web pages and sections. Lists: ordered, unordered and definition, Table tag, HTML Form controls: form, text, password, text area, button, checkbox, radio button, select box, hidden controls, Frameset and frames. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 15                                       |
| III                                                                                       | <b>Dynamic HTML and Web Designing:</b> HTML Basic concepts, Web designing issue, Structure of HTML documents, HTML Elements: Core attributes, Language attributes, Core Events, Block Level Events, Text Level Events, Linking Basics, Linking in HTML, Images and Anchors, Anchor Attributes, Image Maps, Semantic Linking Meta Information, Image Preliminaries, Image Download issues, Images as Buttons, Introduction to Layout: Backgrounds, Colors and Text, Fonts, Layout with Tables,                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 15                                       |
| IV                                                                                        | <b>CSS:</b> Introduction to CSS. Class and DIV, External Style Sheet. Usefulness of Style Sheets, Creating Style sheets, Classes and Pseudo Classes, CSS Tags,                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |

|                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                   | Background, Font, Text, Position etc<br><b>Scripting Languages:</b> JavaScript: Overview of Java Script (JS), Advantage of Java Script, Syntax & Conventions, Variables, Expression, Branching & Looping. Function. Array, Objects, Events & Document Object model, Alerts, prompts and conforms. | 15                                                                                                                 |
| Keywords                                                                                                                                                                                                                                                                                                                                                                          | IP, FTP, HTML, DHTML, CSS , JS, WWW,                                                                                                                                                                                                                                                              |                                                                                                                    |
| Name and Signature of Convener & Member of BoS:                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Part - C : Learning Resources</b>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Text Books Recommended:</b> <ul style="list-style-type: none"><li>• Xavier, C, Web Technology and Design, New Age International.</li><li>• Ivan Bayross, HTML, DHTML, Java Script, Perl &amp; CGI, BPB Publication.</li><li>• Ramesh Bangia, Internet and Web Design, New Age International.</li></ul>                                                                         |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Reference Books Recommended:</b> <ul style="list-style-type: none"><li>• Chuck Musiano &amp; Bill Kenndy, O Reilly, HTML The Definitive Guide</li><li>• Joseph Schmuller, Dynamic HTML., BPB, 2000.</li><li>• Deitel, Deitel, Goldberg, Internet &amp; World Wide Web How to Program, Pearson Education, Raj Kamal, Internet and Web Technologies, Tata McGraw-Hill.</li></ul> |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Online Resources:</b> <ul style="list-style-type: none"><li>• Swayam Portal: Web technology: Web Technology Course (swayam?.ac.in)</li><li>• W3schools. Web development Programming and Scripting Languages<br/><a href="https://www.w3schools.com">https://www.w3schools.com</a></li></ul>                                                                                    |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>PART -D:Assessment and Evaluation -Theory</b>                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Suggested Continuous Evaluation Methods:</b><br>Maximum Marks: <b>100 Marks</b><br>Continuous Internal Assessment(CIA): <b>30 Marks</b><br>End Semester Exam (ESE): <b>70 Marks</b>                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
| <b>Continuous Internal Assessment (CIA): (By Course Teacher)</b>                                                                                                                                                                                                                                                                                                                  | Internal Test / Quiz-(2): <b>20 +20</b><br>Assignment / Seminar - <b>10</b><br>Total Marks - <b>30</b>                                                                                                                                                                                            | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against <b>30 Marks</b> |
| <b>End Semester Exam (ESE):</b>                                                                                                                                                                                                                                                                                                                                                   | <b>Two section – A &amp; B</b><br><b>Section A:</b><br><b>Q1.</b> Objective – <b>10 x1= 10 Mark; Q2.</b> Short answer type- <b>5x4 =20Marks</b><br><b>Section B:</b><br>Descriptive answer type qts., <b>1out of 2</b> from each unit- <b>4x10=40 Marks</b>                                       |                                                                                                                    |

Name and Signature of Convener & Members of BoS:

**Post Graduate Diploma in Computer Application**  
**DEPARTMENT OF COMPUTER APPLICATION**  
**COURSE CURRICULUM**

| PART-A: Introduction                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                               |                                |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Program:Post Graduate Diploma in Computer Application                     |                                                                                                                                                                                                                                                                                                                                                                                                                                              | Semester: I                                                                                                                                                                                                                                                                                                                   |                                |
|                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                              | Session:2024-2025                                                                                                                                                                                                                                                                                                             |                                |
| 1                                                                         | Course Code                                                                                                                                                                                                                                                                                                                                                                                                                                  | CADC-11P                                                                                                                                                                                                                                                                                                                      |                                |
| 2                                                                         | Course Title                                                                                                                                                                                                                                                                                                                                                                                                                                 | SQL and Web Technology                                                                                                                                                                                                                                                                                                        |                                |
| 3                                                                         | Course Type                                                                                                                                                                                                                                                                                                                                                                                                                                  | Discipline Specific Course (practical)                                                                                                                                                                                                                                                                                        |                                |
| 4                                                                         | Pre-requisite(if any)                                                                                                                                                                                                                                                                                                                                                                                                                        | As per Syllabus                                                                                                                                                                                                                                                                                                               |                                |
| 5                                                                         | Course Learning Outcomes (CLO)                                                                                                                                                                                                                                                                                                                                                                                                               | After completing this course, the students will be able to:<br>1) Students would be able to documents, spreadsheets, make small Presentations and would be acquainted with internet.<br>2) Student will come to know about database creation.<br>3) This subject helps in understanding the basics of office automation task. |                                |
| 6                                                                         | Credit Value                                                                                                                                                                                                                                                                                                                                                                                                                                 | 4 Credit                                                                                                                                                                                                                                                                                                                      | (1 Credit=15 hours Laboratory) |
| 7                                                                         | Total Marks                                                                                                                                                                                                                                                                                                                                                                                                                                  | Max. Marks: 100                                                                                                                                                                                                                                                                                                               | Min Passing Marks: 40          |
| Part B: Content of the Course                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                               |                                |
| Total No. of learning-Training/performance Periods: 60 Periods (60 Hours) |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                               |                                |
| Module                                                                    | Topics (Course contents)                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                               |                                |
| Lab./ Experiment Contents of Course,                                      | Note: This is tentative list; the teachers concern can add more program as per requirement.                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                               |                                |
|                                                                           | RDBMS Practical                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                               |                                |
|                                                                           | 1. Design an employee table in Oracle/SQL Server having eid(primary key) ename, edesignation, edoj, edob, eaddress, salary, econtact as fields and answer the following questions:<br>a) Insert five records in above created table.<br>b) Display all five records.<br>c) Delete the fourth record.<br>d) Update the third record of field ename as "hari".<br>e) Add one new field in the table.                                           |                                                                                                                                                                                                                                                                                                                               |                                |
|                                                                           | 2. Design a salary table Oracle/SQL Server with one primary key and foreign key(employee table) having following fields:<br>(Month, working days, deptid, gross, incentive, deduction and net salary)<br>a) Insert five records in above created table.<br>b) Display all five records.<br>c) Use foreign key relation and display records.<br>d) Update the second record of field deptid as 'Sales'.<br>e) Add one new field in the table. |                                                                                                                                                                                                                                                                                                                               |                                |
|                                                                           | 3) Create a new user in Oracle/SQL Server.                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                               |                                |
|                                                                           | 4) Create a view in Oracle/SQL Server.                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                               |                                |

- 5) Create a new table in Oracle/SQL Server and practice for join operation.
- 6) Create a new user in Oracle/SQL Server and practice for commit and rollback command.
- 7) Create a new database in Oracle/SQL Server having atleast five tables for Hotel Management System.
- 8) Create a new database in Oracle/SQL Server having atleast four tables for Covid Vaccination Management System.
- 9) Create a new database in Oracle/SQL Server having atleast five tables for Library Management System.
- 10) Create a new table in Oracle SQL Server and practice for Group by and Order by Clause.
- 11) Create a new table in Oracle/SQL Server and practice for max(), min(), avg() and count() functions.
- 12) Create a new table in Oracle/SQL Server and practice for lower(), substr(), trim() and upper() functions.
- 13) Create a new table in Oracle/SQL Server and practice for unique and check constraint.
- 14) Create a new table in Oracle SQL Server and practice for any two date formats.
- 15) Create a new table in Oracle SQL Server and practice for using clause.
- 16) Create a new table in Oracle/SQL. Server and practice for having clause with sub queries.
- 17) Create a new table in Oracle/SQL Server and practice for alias in any table.
- 18) Create a new table in Oracle/SQL Server and practice for inner and outer join.
- 19) Create a new table in Oracle/SQL Server and practice for Drop command.

## Web Technology Practical

### HTML

1. Write an HTML program to create the following table:

| Class    | Subject1   | Subject2             | Subject2  |
|----------|------------|----------------------|-----------|
| PGDCA-I  | C language | Computer Fundamental | MS Office |
| PGDCA-II | Python     | Web Technology       | RDBMS     |

2. Write an HTML program to create the following lists:

- C
- C++
- Fortran
- COBOL

3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. Basic
4. COBOL

4. Write an HTML program to demonstrate hyper linking between two web pages.

5. Create a marquee & also insert an image.

6. Write an HTML program to create frame in HTML with 3 columns (width= 30%, 30%, 40%).

7. Write an HTML program to create a webpage with a blue background and print the following text with white background.

8. Write an HTML program to create the following table:

| Course           | OC | BC | MB | SC/ST | Total |
|------------------|----|----|----|-------|-------|
| Computer Science | 9  | 18 | 5  | 5     | 37    |
| Commerce         | 14 | 25 | 6  | 5     | 50    |
| Grand Total      |    |    |    |       | 87    |

9. Write an HTML program to create the following table:

| Maruti     |       | Tata    |       | Ford  |       |
|------------|-------|---------|-------|-------|-------|
| Model      | Price | Model   | Price | Model | Price |
| Maruti 800 | 2 Lac | Sumo    | 2 Lac | Icon  | 5 Lac |
| Omni       | 3 Lac | Scorpio | 3 Lac | Gen   | 2 Lac |

10. Write an HTML program to create the following table:

| Name   | Subject | Marks |
|--------|---------|-------|
| Nisha  | Python  | 75    |
|        | RDBMS   | 65    |
| Anisha | Python  | 85    |
|        | RDBMS   | 78    |

11. Write a HTML Program to create Student Registration Form

12. Write a HTML Program to create Contact Form

13. Write a HTML Program to insert Audio & Video in HTML

14. Write the HTML code to display the following:

- Actors
  - Bruce Wills
  - Gerand Butler
  - Vin Diesel Bradd Pitt
  - Paul Walker
  - Jason Statham
- Actress
  - Julia Roberts
  - Angelina Jolie
  - Kate Wins let
  - Cameron Diaz

22. Write the HTML code to display the following:

1. Cricket Players
  - A. Batsman
    - i. Rohit Sharma
    - ii. Virat Kohli
    - iii. Hardik Pandya
  - B. Bowlers
    - i. Md. Shami
    - ii. Bumrah
    - iii. Harbhajan

### JavaScript

1. Create a script using for loop to prime number between 1 and 50.
2. Write a script to get the largest value in an array.
3. Write a function to calculate the factorial o f a number
4. Write a script to demonstrate data validation.
5. Write a program to print date using JavaScript.

|  |                                                                                                                                                                                                                                                                                                               |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 6. Write a program to Sum and Multiply two numbers using Javascript.<br><b>DHTML</b><br>1. Create a web page which shows the changes of header dynamically.<br>2. Create a webpage which explains the use of relative positioning.<br>3. Display an alert box to alert the x and y coordinates of the cursor. |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Part - C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Learning Resource: Text Books, Reference Books, Others</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| <b>Text Books and Reference Books Recommended-</b> <ol style="list-style-type: none"> <li>1. Database system concept, H. Korth and A. Silberschatz, TMH Publications.</li> <li>2. Data Base Management System, Alexies &amp; Mathews, Vikash publication.</li> <li>3. Data Base Management System, C. J. Date, Narosha Publication.</li> <li>4. Data Base Management System By James Martin. 5. Principles of Database System By Ullman.</li> <li>6. Program Design, Peter Juliff, PHI Publications</li> <li>7. The Complete Reference, Kevin Loncy, Oracle Press.</li> <li>8. SQL, PL/SQL The Programming Language of Oracle, Ivan Bayross, Pustak Kosh Publication.</li> <li>9. Microsoft SQL Server Management and Administration, Ross, STM Publications</li> </ol> <b>E-resources:</b> <ol style="list-style-type: none"> <li>1. SWAYAM url link for DBMS and RDBMS :<br/><a href="https://youtu.be/f61.GtJut way">https://youtu.be/f61.GtJut way</a></li> <li>2. SWAYAM url link for DBMS and RDBMS:<br/><a href="https://youtu.be/lol.9Ve2SRw ()">https://youtu.be/lol.9Ve2SRw ()</a></li> <li>3. SWAYAM url link for DBMS and RDBMS:<br/><a href="https://swayam.gov.in/courses/4434-data- base-management-system">https://swayam.gov.in/courses/4434-data- base-management-system</a></li> </ol> |  |

| <b>PART -D:Assessment and Evaluation -Practical</b>                                                                                                               |                                                                                                                                                        |                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Suggested Continuous Evaluation Methods:</b><br>Maximum Marks: 100 Marks<br>Continuous Internal Assessment(CIA): 30 Marks<br>End Semester Exam (ESE): 70 Marks |                                                                                                                                                        |                                                                                                                    |
| <b>Continuous Internal Assessment (CIA): (By CourseTeacher)</b>                                                                                                   | Internal Test / Quiz-(2): 20 +20<br>Assignment / Seminar+ Attendance - 10<br>Total Marks - 30                                                          | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against <b>30</b> Marks |
| <b>End Semester Exam (ESE):</b>                                                                                                                                   | <b>Laboratory / Field Skill Performance: On spot Assessment</b><br>D. practical work - 40 Marks<br>E. Lab record – 10 Marks<br>F. Viva-voce - 20 Marks | Managed by Course teacher as per lab. status                                                                       |

**Name and Signature of Convener & Members of BoS:**