

Training Schedule

Certificate in Computer Applications (711 and 712)

(Theory – 80 hours; Practical – 160 hours)

| S.No | Week | Schedule | Topic Name | Instructions to the trainer (Theory) | Instructions to the trainer (Practical) | Learning Outcomes The learner will be able to: |
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| 1 | 1 | Day 1 | Computer concepts and Networking (4 hrs (Th) + 1 hr (Pr)) | <ul style="list-style-type: none"> • Explain generation of computers. • Explain devices for data communication. • Describe data communication and types of networking topology. | <ul style="list-style-type: none"> • Identify processors. • Arrange computers in different Topology (i.e., BUS, STAR, TREE etc.) | <ul style="list-style-type: none"> • Analyze the requirements for any organizational structure and suggest the most appropriate networking structure. |
| 2 | 1 | Day 2 | Computer concepts and Networking (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Discuss Internet terms. • State the need of internet. • Explain the requirement of computer support infrastructure (UPS, AC systems, DG) | <ul style="list-style-type: none"> • Use computer support infrastructure. • Compose and send email. | <ul style="list-style-type: none"> • Send / respond e-mail to your friends / family members. |
| 3 | 2 | Day 1 | Computer software | <ul style="list-style-type: none"> • Explain the uses of software • Discuss the process of creating software | <ul style="list-style-type: none"> • Enlist system software(s) and application software(s). • Install one system software and | <ul style="list-style-type: none"> • Differentiate between system and application software. |

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| | | | (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Differentiate between program and software • Define system software and application software. | one application software. | |
| 4 | 2 | Day 2 | Computer software (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Types of operating system • Explain concept of open source • Identify open source software and customized software • Interpret the benefits of open source | <ul style="list-style-type: none"> • Install open source operating system in your computer. | <ul style="list-style-type: none"> • Install any software in your computer. |
| 5 | 3 | Day 1 | Basics of Data management (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Define data • Discuss structure and unstructured data • Discuss Data warehousing | <ul style="list-style-type: none"> • Create structured and unstructured data. • Implement Data mining methods. | <ul style="list-style-type: none"> • Differentiate between data and information. |
| 6 | 3 | Day 1 | Basics of Data management (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Explain big data. • Analysis of data using tools. | <ul style="list-style-type: none"> • Analyze data using Excel / any software. | <ul style="list-style-type: none"> • Compare and analyze the data using tools. |
| 7 | 4 | Day 2 | Information Security (2 hrs (Th) + | <ul style="list-style-type: none"> • Discuss cyber security • Explain network security and network security tools | <ul style="list-style-type: none"> • Demonstrate network security tools. | <ul style="list-style-type: none"> • Secure your system using tools. |

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| | | | 3 hrs (Pr)) | | | |
| 8 | 4 | Day 1 | E-Governance (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Define e-Governance • Differentiate between Governance and e-Governance • Government organization using e-Governance | <ul style="list-style-type: none"> • Demonstrate e-Governance process. | <ul style="list-style-type: none"> • Adopt e-Governance services. |
| 9 | 5 | Day 2 | E-Governance (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Explain digital payment methods. • Security aspect in digital payment(s). • Identify mobile apps for e-Governance • Differentiate between e-commerce and m-commerce | <ul style="list-style-type: none"> • Demonstrate different payment methods. • Demonstrate not to share sensitive information in digital payment. | <ul style="list-style-type: none"> • Adopt digital payment methods. |
| 10 | 5 | Day 1 | Social networking (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Define social networking • Discuss social networking sites • Enlist the advantages and disadvantages of social networking | <ul style="list-style-type: none"> • Create an account on social networking sites. | <ul style="list-style-type: none"> • Use social networking sites and connect with friends / family / colleagues. |
| 11 | 6 | Day 2 | Social networking (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Explain social media tools. • Discuss cyber crime, communication tools. | <ul style="list-style-type: none"> • Demonstrate social media tool(s) for communication. | <ul style="list-style-type: none"> • Use social media tools for communication. |
| 12 | 6 | Day 1 | Office Productivity tools (3 hrs | <ul style="list-style-type: none"> • Discuss OpenOffice. • Use OpenOffice writer, OpenOffice calc. • Acquaint the skills of | <ul style="list-style-type: none"> • Install open office tool. • Create documents and spreadsheet. | <ul style="list-style-type: none"> • Use open office software for creating documents. |

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| | | | (Th) + 2 hrs (Pr)) | Impress. | | |
| 13 | 7 | Day 2 | Office Productivity tools (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> Acquaint the skills of Impress. | <ul style="list-style-type: none"> Create presentation using Impress software. | <ul style="list-style-type: none"> Design a presentation on any topic and present to a group. |
| 14 | 7 | Day 1 | Concepts of Database Management system (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> Explain database management systems. Define relational database management systems Create tables, forms, queries and reports Use constraints | <ul style="list-style-type: none"> Install DBMS software. Demonstrate DBMS components. Demonstrate any one query on installed DBMS software. Demonstrate queries to retrieve records. | <ul style="list-style-type: none"> Compose queries using DBMS software. |
| 15 | 8 | Day 2 | Introduction to MySQL (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> Define query language Explain MySQL Use DDL commands | <ul style="list-style-type: none"> Install MySQL. Write simple queries. | <ul style="list-style-type: none"> Write simple queries and create reports. |
| 16 | 8 | Day 1 | Introduction to MySQL (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> Differentiate between DDL and DML Commands | <ul style="list-style-type: none"> Create student table with attributes roll Number, Name, Branch, Number of Subject, address, mobile number. Write a query for displaying roll number and name of the student. Update mobile number for few students | <ul style="list-style-type: none"> Create tables using commands. |

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| | | | | | <ul style="list-style-type: none"> ● Use other DML commands on above table | |
| 17 | 9 | Day 2 | <p>Queries in MySQL</p> <p>(2 hrs (Th) + 3 hrs (Pr))</p> | <ul style="list-style-type: none"> ● Explain the purpose of queries and demonstrate - create queries / modify queries for different criteria. ● Enter the data in the table. | <ul style="list-style-type: none"> ● Run the queries for different criteria. ● Write DML commands and create reports. | <ul style="list-style-type: none"> ● Create / modify / run queries for different criteria. ● Create reports for the data you had entered. |
| 18 | 9 | Day 2 | <p>Concepts of Programming Methodology</p> <p>(3 hrs (Th) + 2 hrs (Pr))</p> | <ul style="list-style-type: none"> ● Simplify expressions. ● Use of proper names for identifiers. ● Prepare document and understand the problem. ● Identify arithmetic and logical operations required for the solution. | <ul style="list-style-type: none"> ● Create flowchart for factorial, Fibonacci series. | <ul style="list-style-type: none"> ● Create flow chart(s) for problems. ● Create, implement, debug and evaluate algorithms. |
| 19 | 10 | Day 1 | <p>Basics of Object Oriented Programming</p> <p>(3 hrs (Th) + 2 hrs (Pr))</p> | <ul style="list-style-type: none"> ● Define Object Oriented Programming ● Explain Data hiding ● Describe Class, objects and Class specifiers | <ul style="list-style-type: none"> ● Create student class and access its member from outside of class ● Implement similar task for other class | <ul style="list-style-type: none"> ● Describe encapsulation. |
| 20 | 10 | Day 2 | <p>Basics of Object Oriented Programming</p> <p>(3 hrs (Th) +</p> | <ul style="list-style-type: none"> ● Explain Class and its member ● Define Constructor and Destructor ● Types of constructor | <ul style="list-style-type: none"> ● Create a class with its member functions, constructor and destructor. | <ul style="list-style-type: none"> ● Write queries to retrieve records. |

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| | | | 2 hrs (Pr)) | | | |
| 21 | 11 | Day 1 | Basics of Object Oriented Programming (2 hrs (Th) + 3 hrs (Pr)) | <ul style="list-style-type: none"> • Discuss Inheritance • Explain types of Inheritance and its uses | <ul style="list-style-type: none"> • Demonstrate types of Inheritance with suitable example | <ul style="list-style-type: none"> • Identify types of Inheritance and write simple programs. |
| 22 | 11 | Day 2 | Basics of Object Oriented Programming (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Explain Polymorphism • Discuss static and dynamic polymorphism | <ul style="list-style-type: none"> • Demonstrate suitable example for compile time and run time polymorphism. | <ul style="list-style-type: none"> • Write programs for compile time and run time polymorphism. |
| 23 | 12 | Day 1 | Introduction to Python (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Use of interactive and script mode • Define data types • Use of basic operators • Define variables | <ul style="list-style-type: none"> • Install suitable tool for Python Programming. • Demonstrate calculator. | <ul style="list-style-type: none"> • Compare Python with other programming language. |
| 24 | 12 | Day 2 | Python programming (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Use relational operators • Explain bitwise operator, assignment operator, special operators. | <ul style="list-style-type: none"> • Write simple programs using relational operators. | <ul style="list-style-type: none"> • Apply fundamental programming concepts using Python programming language to solve substantial problems. |

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| 25 | 13 | Day 1 | Introduction to Python (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Use expressions. • Create statements. • Discuss Python statements and loops. | <ul style="list-style-type: none"> • Demonstrate prime number program using “for” and “while” loop. | <ul style="list-style-type: none"> • Use loops and write simple program(s) in Python. |
| 26 | 13 | Day 2 | Python programming (5 hrs (Pr)) | | <ul style="list-style-type: none"> • Write a program for displaying grade of a student. • Write a program to find the factorial of a number. • Write a program to find the square of a number. | <ul style="list-style-type: none"> • Use iterations in program(s). |
| 27 | 14 | Day 1 | Python programming (5 hrs (Pr)) | | <ul style="list-style-type: none"> • Write a program to find the sum of first twenty natural numbers. • Write programs using looping statements. | <ul style="list-style-type: none"> • Write programs using conditional statement and looping statement. |
| 28 | 14 | Day 2 | Programming with Python (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Explain function for arithmetic operations • Define list operation | <ul style="list-style-type: none"> • Demonstrate list operation. • Implement insertion, deletion and search operation in list using function. | <ul style="list-style-type: none"> • Create function to implement basic arithmetic operations. |
| 29 | 15 | Day 1 | Programming with Python (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Define stack, queues. • Perform insert, delete and search operations in Stack. • Perform insert, delete and search operations in queues. | <ul style="list-style-type: none"> • Implement stack operation, queue data structure. | <ul style="list-style-type: none"> • Examine insertion, deletion and search operation in stack and queue. |
| 30 | 15 | Day 2 | Python Programming | <ul style="list-style-type: none"> • Handle errors and exceptions. • Read / write from / to file. | <ul style="list-style-type: none"> • Implement exception handling in programs. | <ul style="list-style-type: none"> • Use exceptions handlers in programs. |

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| | | | (3 hrs (Th) + 2 hrs (Pr)) | | <ul style="list-style-type: none"> • Read content from a file. • Write content to a file. | <ul style="list-style-type: none"> • Read /write from / to file using Python programming. |
| 31 | 16 | Day 1 | Python Programming (3 hrs (Th) + 2 hrs (Pr)) | <ul style="list-style-type: none"> • Open file in write and append mode. • Access database. | <ul style="list-style-type: none"> • Create student database in file and implement write, append, read and update operations on it. | <ul style="list-style-type: none"> • Analyze file operations. |
| 32 | 16 | Day 2 | Python Programming (5 hrs (Pr)) | | <ul style="list-style-type: none"> • Write programs for reading the data from the file and write the data to the file. | <ul style="list-style-type: none"> • Create and analyze file operations. |
| 33 | 17 | Day 1 | Python Programming (5 hrs (Pr)) | | <ul style="list-style-type: none"> • Write programs to handle the errors and exceptions. | <ul style="list-style-type: none"> • Create programs for handling exceptions. |
| 34 | 17 | Day 2 | Workplace practices (3 hrs (Th) + 2hrs (Pr)) | <ul style="list-style-type: none"> • Explain about sharing resource and time management. • Demonstrate work ethics. | <ul style="list-style-type: none"> • Form a group of 5 to 6 learners and perform activity related to work ethics. | <ul style="list-style-type: none"> • Conform to workplace expectations. |

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| 35 | 18 | Day 1 | Workplace practices (3 hrs (Th) + 2hrs (Pr)) | <ul style="list-style-type: none"> • Work with colleagues to integrate their work effectively with them. • Communicate confidently in a group of members and deliver a speech. | <ul style="list-style-type: none"> • Use resources efficiently. • Report any hazards at your workplace. • Solve the problems of your workplace immediately. | <ul style="list-style-type: none"> • Work effectively and efficiently in a workplace. |
| 36 | 18 | | Internship | 65 hours of Internship in any software company / organization | | |
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