**Curriculum plan (Even Semester 2020-21)**

**Paper name: Programming in C++**

**Class type: BSc. Physical Science IV semester (SEC)**

**Paper shared with: NIL**

**Teacher Name: Ms Kanishka**

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| **Unit to be taken** | **Month wise schedule to be followed** | **Tests/Assignments/ Revision/Presentations etc** |
| **Unit 1 Introduction to C++:**Need and characteristics of Object-Oriented Programming, Structure of a C++ Program (main () function, header files, output, input, comments), compile and execute a simple program. | Jan (Week II)  |  |
| **Unit 2 Data types and Expression:** Keywords, built in data types, variables and constants, naming convention, Input-Output statements, expressions and operators, precedence of operators, typecasting, library functions. | Jan (Week III, IV) | Quiz Unit 1 |
| **Unit 3 Control Constructs in C++ :** Decision making using selection constructs, looping constructs, control constructs. | Jan Week (V)Feb (Week I) | Revision Unit IIPresentation Unit I, II |
| **Unit 4 User defined Data types and functions:** User defined data types, defining and initializing structuresderived data types, defining and initializing single and multi-dimensional arraysuser defined functions, passing arguments to functions, returning values from functions, inline functions, default arguments. | Feb (Week II, III)Feb (Week III,IV)Feb (Week IV)March (Week I) | Test Unit IIAssignment I Presentation Unit III |
| **Unit 5 Classes and Objects:** Need of abstraction, encapsulation, inheritance and polymorphism, creating classes, objects as function arguments, modifiers and access controlconstructors and destructors Implementation of single level inheritance, implementation of polymorphism, function overloading. | March (Week II, III)March (Week IV, V)April (Week I, II) | Test Unit IIIAssignment IITest Unit IV  |
| **Unit 6 File Handling:** File I/O Basics, read and write operations. | April (Week III)April (Week IV,V) | Test Unit VRevision |

**References**

1. **Lafore, R. Object Oriented Programming in C++ (4th Edition). SAMS Publishing.**

**Name of teacher: Kanishka**

**Signature**