COURSE TITLE

JAVA FUNDAMENTALS

AIMS OF THE MODULE

The focus of this course is to provide students with fundamental / basic understanding of computer programing concepts using Java Programming language. They will acquire the knowledge and skills to perform problem analysis and the development of algorithms and computer programs through practical exercises, lectures, demonstrations and examples.

Java Fundamentals

CONTENTS

1. Introduction and Installation

- Introduction to Java Programming Language. How to write, compile and run a Java code.
- Install and configure Java
- Install and configure IDE(Integrated development environment)
- A Java Hello World Program

2. Variables and Constants. Simple data types.

- Using Variables and Constants
- Strings: Working With Text
- Data Types in Java

3. Java Expressions

- Operators and Precedence. Assignment Operator
- Equality and logical operators.

4. Control flow/Conditional statements • The if statement

- The else clause
- Block statements
- Nested if statements
- The switch statement and enum data type

5. Repetitive statements

- while loops
- do/while loops
- for loops
- for each loops
- Iterators

6. Introduction to Arrays

7. Introduction to Object Oriented Programming using Java

- Classes and Objects
- Abstract classes. Inheritance
- Nested Classes
- Interfaces
- Polymorphism and Overloading

8. Packaging

9. Handling Exceptions

10. Introduction and the use of Java collections

- Methods of teaching and Schedule o Modern methods of interactive lecturing, practical work in the class, practical work in the lab, practical assignment and work at home.
- 30 hours of in-classroom training