## Programming in Java

## ACCS-16501

## Topics to be studied for Sessional Test – 1, Sept 2022

- ✓ **Java** and its application areas, OOPs features, Standard java packages and methods contained it (lang, util, net, sql, io, awt, applet), **import statement and its usage**
- ✓ **Data types** in Java along with their range, size and default values. **Type casting (Explicit and Implicit), automatic type promotion in expressions.**
- ✓ **Operators** in Java along with their precedence and associations, **solving expressions based on various operators**
- ✓ **Control statements** in Java: if statement and its types, for, while and do while loops, switch statement, goto statement, break and continue statements
- ✓ **Arrays** in Java (both 1D and 2D), initialization of arrays, using arrays in various sorting, searching algorithms and other programs
- ✓ Strings in Java: **String and StringBuffer classes along with their methods**
- ✓ **Classes and Objects** in Java: member variables and methods in a class, instance, class and local variables, constructors and its types, constructor overloading, garbage collection in Java, finalize method, **overloading methods**, **this** keyword and its usage, **recursion** in Java and its need
- ✓ **Inheritance** and its various types, syntax of inheritance, use of **super**, constructor invocation in Java, **method overriding, abstract classes and abstract methods** in Java, various uses of keyword final
- ✓ **Packages** in java, need of packages, **creation and usage**, classpath and its need, concept of JAR files
- ✓ Interfaces in Java and its need, extending an interface, **implementing an interface, multiple inheritance using interfaces**
- ✓ Exception handling in python, pre-defined and user-defined exceptions, **try and catch blocks, usage of throw, throws, finally**

- ✓ Simple Programming problems based on the above listed topics would be there in the Sessional Exam
- ✓ Syntax, example along with output should be mentioned for code snippets as well as programs written in the Sessional Exam
- ✓ Neat and clean diagrams should be drawn wherever applicable in the Sessional Exam