**Guru Tegh Bahadur Institute of Technology**

 **IT\_1- 4th semester**

**Subject Name: Programming in java**

**Subject Code: CIC212**

 **Assignment No.-1**

Q.1Explain different primitive and non-primitive data type in java.

Q.2Explain the terms literals and their types with the help of suitable example.

Q.3What do you mean by an array in java. Explain the following in context of array:

a) Single dimensional array

b) Multidimensional array

Give appropriate example using source code

Q.4 Explain the following through definition,syntax and source code:

a) if

b) if-else

c) if-else-if ladder

d) Nested if

e) Switch case

Q.5 Explain Arithmetic and logical operator with the help of example.

Q.6 Explain the concept of loops in java with proper syntax for the following:

1) for loop and its variants(for each and labelled for loop)

2) While

3) Do-While

Q.7What are the various promises of java? How Sandbox model helps to achieve these security aspects.

Q.8 Explain the JVM architecture in details with the help of block diagram.

Q.9 Explain Instruction and class file format in java with the help of example.

 **Assignment No.2**

Q.1What do you mean by Java Abstract Window Toolkit (AWT) also explain the hierarchy of AWT in details. What are the advantages of Swing over AWT?

Q.2What is Java native interface? Explain the working of JNI and as well as the advantages.

Q.3Explain the term synchronization in multithreaded programming. Write a java code for Producer-Consumer problem using the concept of synchronization.

Q.4Explain the concept of socket programming for building client server applications in Java.

Q.5Explain Instruction and class file format in java with the help of example.

 **Assignment No.-3**

Q.1.Explain the term Java Database Connectivity (JDBC), JDBC Manager and different types of drivers. Also write the code for accessing data from the database (MS-Access/ MS-SQL).

Q.2.What are the differences between vector and array List?

Q.3.Explain file handling in Java. How BufferedReader and BufferedWriter classes can be used for file handling? Also write the code for the same.

Q.4.Explain the following:

a) API Interface

b) Hashtable classes

Q.5.Define the Java Anonymous classes.

 **Assignment No.4**

Q.1What is Synchronization in java? What are the types of synchronization?

Q.2Write a java program for printing the Fibonacci series.

Q.3What is Vector classes in java explain with program code.

Q.4List various classes available in java for performing Input/ Output operation.

Q.5 Differentiate between Collection and collection framework.

Q.6What is java Serialization? How to serializing an object?

Q.7 Difference between Collection.stream().forEach() and Collection.forEach() in java.

Q.8 Why to use Comparator interface rather than Comparable Interface in Java?