B. Sc. IT (HONS.): 6th Semester						
Course Title	**Course Code**	**Credits- 06**			**Total Marks- 90**	
		Theory	**Tutorial**	**Practical**	**Theory**	**Practical**
Core Java Programming	BIT620C1	04	Nil	02	**60**	**30**

UNIT-I

Java Evolution: Java history, java features(compiled and interpreted, platform-independent and portable, object-oriented, robust and secure, distributed, simple and familiar, multithreaded and interactive, high performance and dynamic and extensible); how java differs from C&C++.

UNIT-II

Overview of Java Language: Introduction, simple java program, class definitions, main method, java tokens(java character set, keywords, identifiers, literals, operators, separators);java statements; Implementing a java program(creating the program, compiling the program, running the program, java's magic-the byte code); java virtual machine; Command line arguments; programming style.

Decision Making and Looping: Decision making and looping with (if statement, if-else statement, switch statement, while statement, do-while statement, for statement, for-each statement).

Arrays: (one dimensional and two dimensional arrays), strings and vectors.

UNIT-III

Classes, Objects and Methods: Introduction, defining a class, adding variables, adding methods, creating objects, accessing class members, constructors, method overloading, static members, nesting of methods.

Inheritance: extending a class (defining a subclass, subclass constructors, multilevel inheritance, and hierarchical inheritance).

UNIT-IV

Interfaces: introduction, defining interfaces, extending interfaces, implementing interfaces.

Packages: introduction, system packages, using system packages, naming conventions, creating packages, accessing packages

Managing Errors and Exceptions: introduction, types of errors (compile time run time), throwing exceptions, using exceptions for debugging .Overview of multithreading concepts.

Note: *The Practical Component shall be based on the Unit-I to Unit-IV*

Reference Books:

1. "The Complete Reference-JAVA 2" by Herbert Schildt, Tata McGraw Hill
2. "Java –How to Program" by Deitel, Pearson Education
3. "Mastering Java2" by John Zulkowski BPB Publications.
4. "Programming with JAVA" by E Balaguruswamy.