

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. Semester – V BCA-501: JAVA Programming

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

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Unit – I

[18 MARKS]

Fundamentals of Object Oriented Programming:

Basic Concepts of Object-Oriented Programming: Object and Class, Data Abstraction and Encapsulation, Inheritance, Polymorphism, Dynamic Binding, Message Communication. Benefits and Applications of OOP.

Basics of Java.

History of Java, Java Features, JDK and its Components (Various Tools of JDK), Byte code and JVM, JAVA Program Structure.

Building Blocks: Tokens (Keywords, Identifier, Literals, Operators, Separators), Variables, Data Types, Type Conversion and Casting, Command Line Arguments.

Control Statements:

Selection Statement: if – else, nested if-else, else if ladder, switch Statements.

Iteration statements: while, do...while, for Statements

Jump Statements: break, continue.

Arrays: How to create array in java.

Unit-2

[17 MARKS]

Class Fundamentals:

Defining Classes, Creating Objects, Static Members, Methods Overloading, Nesting of Methods

Constructors: Introduction, Default & Parameterized Constructors, Constructor Overloading.

Inheritance: Introduction, Single, Multilevel, Hierarchical Inheritance. Method Overriding, final Variable, final Methods & final Class, abstract Methods and Abstract Class.

Access Modifiers (Visibility Controls) – public, private, default, protected, private protected.

