

**JYOTI NIVAS COLLEGE AUTONOMOUS  
SYLLABUS FOR 2021 BATCH AND THEREAFTER  
PROGRAMME: BCA**

**SEMESTER: II -OBJECT ORIENTEDPROGRAMMING USINGJAVA  
COURSE CREDITS: 03**

**NO. OF HOURS: 45**

**COURSE OUTCOMES (COS):**

- Implement the object oriented paradigm for solving a problem
- Apply the concept of Packages, Interfaces, Exception handling , multithreaded programming, , and Input and Output Files in Java.
- Able to develop interactive programs using Applet Programming and Graphics Programming
- Demonstrate the use of various OOPs concepts with the help of java programs

**UNIT-I**

**12**

**Hours**

**IntroductiontoJava:**BasicsofJavaprogramming,Datatypes,Variables,Operators,Controlstructuresincludingselection,Looping,Javamethods,Overloading,Mathclass,Arrays in java.

**Objects and Classes:** Basics of objects and classes in java, Constructors,Finalizer, Visibility modifiers, Methods and objects, Inbuilt classes like String, Character,StringBuffer, File, this reference

**UNIT-II**

**11**

**Hours**

**InheritanceandPolymorphism:**Inheritanceinjava,Superandsubclass,Overriding,Objectclass,Polymorphism,Dynamicbinding,Genericprogramming,Castingobjects,Instanceofoperator, Abstractclass,Interfaceinjava,Packageinjava,UTIL package.

**UNIT-III**

**11**

**Hours**

**Event and GUI programming:** Event handling in java, Event types, Mouse and key events,GUI Basics, Panels, Frames, Layout Managers: Flow Layout, Border Layout, Grid Layout,GUI components like Buttons, Check Boxes, Radio Buttons, Labels, Text Fields, Text Areas,Combo Boxes, Lists, Scroll Bars, Sliders, Windows, Menus, Dialog Box,  
**Applet and its lifecycle,Introductiontoswing,Exceptionalhandlingmechanism.I/Oprogramming:**TextandBinaryI/O,BinaryI/Oclasses, ObjectI/O, RandomAccessFiles.

**UNIT-IV**

**11**

**Hours**

**Multithreadinginjava:**Threadlifecycleandmethods,Runnableinterface,Thread synchronization,**Exceptionhandlingwithtry-catch-finally**,Collectionsinjava,**Introductionto JavaBeans and Network Programming.**

**TextBooks:**

1.E.Balagurusamy,ProgrammingwithJAVA,McGraw Hill,NewDelhi,2007

**ReferenceBooks:**

1. RajKumarBuyya, Object Oriented Programming with JAVA, McGrawHill, 2009.
2. Herbert Schildt, Java A Beginner's Guide – Create, Compile, and Run Java Programs Today, 6<sup>th</sup> Edition, Oracle Press, 2014.
3. Ken Arnold, James Gosling, "The Java Programming Language, Fourth Edition, AddisonWesley, 2005.
4. HerbertSchildt, 'TheCompleteReferenceJava, 7thEdition, McGrawHill, 2007

**WebResources:**

1. <https://docs.oracle.com/javase/tutorial/>
2. <https://javabeginnerstutorial.com/core-java-tutorial/>