J.S. University, Shikohabad Faculty of Information Technology	Value Added Course
	AY: 2022-23

JAVA PROGRAMMING

Learning Outcome:

This Course will provide knowledge of Information Technology

Duration: 30 Hours. (Theory and Practical)

Course Outcome:
- Follow standards and declaration rules in writing Java programs
- Write simple Object Oriented Programs using Java
- Apply operators and boxing to write business logic in Java
- Handle exceptions, strings and date while creating applications
- Write Java programs using Generics and collections and implement concurrency in the programs
- Develop GUI based Application using event driven programming

MODULE I   **6 Hrs.**
DECLARATION AND ACCESS CONTROL
Identifiers and JavaBeans standards - Declaring Classes - Declaring Interfaces - Declaring Class Members - Constructor - Declaring Enums

MODULE II   **6 Hrs.**
OBJECT ORIENTATION
Encapsulation and Inheritance - Polymorphism and Reference variable casting - Overridding and Overloading -Constructor and Instantiation - Static Variable and methods - Coupling and cohesion - Garbage Collection

MODULE III   **7 Hrs.**
ASSIGNMENT AND OPERATORS
Stack and Heap memory Overview - Literals, Assignments and variables - Method calling Mechanism Array and Overloading - Wrapper class and Boxing Assignment Operator, relational Operator - Instance of and Conditional Operator

MODULE IV   **4 Hrs.**
EXCEPTIONS STRINGS AND I/O FORMATTING
Exception - String, String methods -StringBuffer, StringBuilder - File Navigation, I/O - Dates, Numbers and Currency

MODULE V   7Hrs.
GENERICS, COLLECTIONS,INNER CLASSES AND THREADS, DEVELOPMENT AND SWING 16
Object class Methods Collections- List, Set, Map, Queue, ArrayList TreeSet, TreeMaps and Backed Collections
Regular and Local Inner Classes - Anonymous Inner class and Nested Classes – Threads Thread
Synchronization -Javac and java commands , JAR ,Import statement Swing Environment – Controls- Layout
Management- Event Handling – Action- Event Handling – Mouse, Keyboard- Menu and Menubars -
Developing sample application using SWING

REFERENCES

1. SCJP Sun Certified Programmer for Java 6 Study Guide: Exam 310-065 by Kathy Sierra McGraw Hill
Reference Book:
1. Cay S. Horstmann and Gary Cornell, "Core Java: Volume I - Fundamentals", Sun Microsystems Press, Ninth
Edition, 2013

2. Rajkumar Buyya ,S. Thamarai Selvi ,Xingchen Chu "Object Oriented Programming with Java: Essentials and
Applications" Tata McGraw Hill Education 2009
3. P.J. Deitel & H.M. Deitel, "Java: How to Program Java 2", Prentice Hall, Seventh Edition, 2011.
4. Herbert Schildt, "Java: The Complete Reference", McGraw Hill Education, Ninth Edition, 2014.
Extensive Reading:
• http://docs.oracle.com/javase/tutorial/java/
• http://www.java2s.com/Tutorial/Java/CatalogJava.htm
• http://www.javatpoint.com/java-swing
• https://docs.oracle.com/javase/tutorial/collections/intro/

(Name of Faculty)   (Name of Faculty)   (Name of Faculty)

Course Coordinator   Dean Academics   Director/Principle/Dean of
                                                                       Faculty/Department
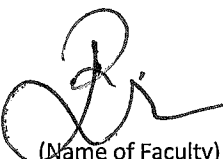
Jitendre Kumar   Dr. Akhilesh   Dr Roopendr
                                                                       Kumar