

Roll.No.

25UACT3004

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.C.A. - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - III

25UACT3004 - Programming in Java

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the major features of Java and highlight its object-oriented concepts.
2. Describe the role of packages in Java. How do packages ensure access protection?
3. Analyze the use of FileStreams and StringBuffer classes for data manipulation in Java programs.
4. Apply AWT controls to design a simple window-based Java application.
5. Discuss the concept of constructors and method overloading in Java with examples.
6. Demonstrate thread synchronization techniques in Java with a sample code.
7. Illustrate with example how applets interact with IO streams in Java applications.
8. Evaluate various authentication mechanisms used in JDBC programming for securing database operations.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Develop a Java application using object-oriented concepts and explain how encapsulation and inheritance are implemented in your code.
10. Analyze different types of inheritance in Java with suitable examples. How does abstract class usage enhance Java's object-oriented capabilities?
11. Evaluate the importance of package organization and exception handling in large Java projects. Justify your views with practical scenarios.
12. Examine various techniques used for file manipulation and data streams in Java. Discuss approaches for handling large data efficiently.
13. Propose a secure JDBC-based solution for a banking application. Justify the choice of authentication and transaction management techniques used.
