

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.Sc.(DS) END SEMESTER EXAMINATIONS APRIL-2023

SEMESTER - II

**22UDSCT2002 - Java and Data Structures**

Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

### Section B

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

1. What is the purpose of a default constructor in Java? Explain.
2. Discuss the Characteristics and types of looping in Java.
3. Write a program in Java to convert a string in lower case to uppercase.
4. Describe parameter passing to applets in Java? Demonstrate with example.
5. Explain the steps in creating a thread using runnable interface.
6. Define Queue and its difference from stack with implementation.
7. Explain Infix to postfix expression in java with examples.
8. Which data structures are used for BFS and DFS of a graph? Explain.

### Section C

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

9. a. Discuss enumerated data type in Java with an example.  
b. Explain the basic concepts of object-oriented programming.
10. a. Explain overriding method with a suitable example program.  
b. Write about garbage collection in Java.
11. Explain the following with an example:  
a. Thread scheduling  
b. I/O Stream
12. Compare both Singly and Doubly Linked List with suitable examples.
13. a. Explain binary search algorithm and compare it with linear search algorithm.  
b. Explain the steps in Dijkstra's Algorithm.

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