

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.(AI) END SEMESTER EXAMINATIONS NOVEMBER -2023

SEMESTER - III

22UAICT3003 - Java and Data Structures

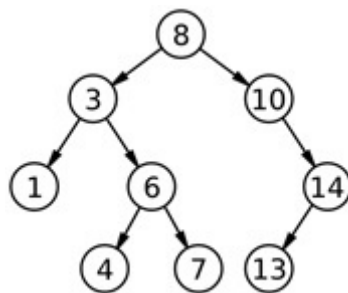
Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

Section B

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

1. What is type casting? Explain with example.
2. Illustrate with an example how packages are created and accessed in java.
3. Compute an algorithm to perform the operation of stack.
4. Explain the traversal techniques for the given Binary tree



5. Define constructor. Illustrate the types of constructor with example.
6. What is interface? Apply and discuss the concept of interface with an example.
7. Compute an algorithm to convert the given infix expression to a postfix expression.
 $(3 + 4) * 5 - 6 / 2$
8. Differentiate the working principle of Depth First Search and Breadth First Search.

Section C

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

9. Explain the conditional statements in java. Illustrate each with example.
10. Explain Overloading and Overriding methods.
11. Examine and discuss the life cycle of an applet.
12. Relate singly linked list with a real world applications. Explain with an algorithm how an element is added to the list.
13. Explain in detail Dijkstra's Algorithm with example.

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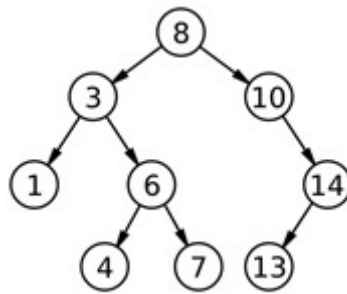
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