END SEMESTER EXAMINATION - OCTOBER 2024

SEMESTER 5 : INTEGRATED M. Sc. PROGRAMME IN COMPUTER SCIENCE – DATA SCIENCE

COURSE: 21UP5CRMCP16: PROGRAMMING IN JAVA

(For Regular 2022 Admission and Supplementary 2021 Admission)

Time: Three Hours   Max. Weightage: 30

PART A
Answer any 8

1. Write an example for declaring a class along with its properties and methods.
2. List any five methods that are helpful in array manipulation.
3. Define the term 'event'. List any four examples of events.
4. Name the method that is used to execute a SELECT query with JDBC. Also, state the purpose of ResultSet.
5. List any five object-oriented features that are supported by Java.
6. Determine the value of each of the following logical expressions if a = 5, b = 10, and c = -6.
   (a). a > b && a < c
   (b). a < b && a > c
   (c). a == c || b > a
   (d). b > 15 && c < 0
   (e). (a / 2 == 0 && b / 2 == 0) || c < 0
7. Name the package that is used to include graphics methods in Java. Also, list any four built-in graphics methods.
8. Define constructor. Write its syntax.
9. State the ways to create a custom thread in Java, along with its syntax.
10. List any five tools that comes along with JDK for developing and running Java programs.

(1 x 8 = 8 Weight)

PART B
Answer any 6

11. Prepare a note on the various layout managers.
12. Define labelled loops. With an example, explain the same.
13. Using JDBC, explain how DELETE and UPDATE operations are performed on MySQL database.
14. Prepare a detailed note on how visibility of members is managed in Java.
15. Create a java program that sorts a list of integers in ascending order.
16. Define exception. Create a java program that demonstrates handling an exception when dividing by zero.
17. Define variable. Write short notes on the different types of data supported by Java.
18. Develop a GUI-based program to check whether a number is prime or not.

(2 x 6 = 12 Weight)

Answer any 2

19. Justify the statement – "Interfaces allows programmers to add a level of abstraction as well as multiple inheritance". Also write meaningful program to illustrate the same.

20. Define inheritance. With a sample program, explain multilevel inheritance.

21. Create an interface with components for reading user-input. Demonstrate how the details are saved to a MySQL database.

22. Prepare a detailed note on Swing architecture and its components.

(5 x 2 = 10 Weight)