Question Paper

Exam Date & Time: 23-Nov-2023 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal
First Semester Master of Engineering - ME (Embedded Systems) Degree Examination - November / December 2023

Database Programming in Java (Elective-1) [ESD 5133]

Marks: 100   **Duration: 180 mins.**

Thursday, November 23, 2023

Answer all the questions.

1)   a) Discuss the various unique advantages of object-oriented programming   (10)
        (CO1) (5 marks)
        b) Write a short note on "Inheritance and Polymorphism" as applied to
        OOP (CO1) (5 marks)

2)   a) Describe in detail, the importance of both java virtual machine and   (10)
        bytecode in order to execute java applications. (CO2) (5 marks)
        b) Discuss the points to justify java is a robust language (CO2) (5 marks)

3)   a) Explain the various types of iteration statements in java. (CO2) (6   (10)
        marks)
        b) Write a short note on different data types available in java (CO2) (4
        marks)

4)   a) Illustrate the concept of constructors in java by providing examples   (10)
        (CO2) (6 marks)
        b) Write a short note on inner classes in java (CO2) (4 marks)

5)   Distinguish between compile-time polymorphism & run-time polymorphism   (10)
        with examples for each of the concepts (CO2) (10 marks)

6)   a) Write a short note on "File" class and its associated methods (CO2) (4   (10)
        marks)
        b) Describe the main steps involved in creating a GUI java application.
        (CO3) (6 marks)

7)   Discuss the advantages of database approach. (CO4) (10 marks)   (10)

8)   a) Distinguish between a database schema and a database state (CO4) (4   (10)
        marks)
        b) Discuss the various types of DBMS Languages (CO4) (6 marks)

9)   a) Discuss the steps involved in connecting to a database using JDBC   (10)
        API's (CO4) (5 marks)
        b) Write a short note on Connection and Prepared Statement with respect
        to SQL operation of Java (CO4) (5 marks)

10)   a) Discuss the various types of Aggregate functions in SQL. Write   (10)
       examples for at least three functions. (CO4) (6 marks)
       b) Write a short note on stored procedure in SQL. (CO4) (4 marks)

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