

Question Paper

Exam Date & Time: 29-Nov-2023 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

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

Cloud Application with Java and Database [CDC 5101]

Marks: 100

Duration: 180 mins.

Wednesday, November 29, 2023

Answer all the questions.

- 1) . (CO2) (10)
a) Explain how Java achieves platform independence through the concepts of Bytecode JVM (4)
b) Write a short note on Branching (jump) statements and selection statements available in Java. (6)
- 2) Briefly describe the following (with reference to Java): (CO2) (10)
a. Finalize method (3)
b. Multilevel Inheritance (2)
c. Multiple Inheritance (3)
d. Serialization (2)
- 3) . (CO2) (10)
a) Explain the use of keyword super with examples (with reference to Java). (5)
b) List out the difference between interface and abstract class in Java and suggest when would you choose one over the other or both in your application (5)
- 4) Discuss the following: (CO2) (10)
a) Java's access control mechanism (5)
b) Illustrate the usage of Collections in Java Programming (5)
- 5) . (CO3) (10)
a) Describe the steps involved in developing the java application with databas connectivity (6)
b) Illustrate the difference between **throw** and **throws** used in the Java Exception Handling with appropriate example. (4)
- 6) Write short notes on (CO2) (5 Marks each) (10)
a. Data Lake
b. Evolution of Database
- 7) Discuss different phases of the Database design (CO3) (10) (10)
- 8) Describe concept of weak entity and candidate key from the context of E R model followed in DBMS (10) with appropriate example (CO2) (10)
- 9) Explain Data anomalies that can be present in 3NF and explain BCNF (CO3) (10) (10)
- 10) Illustrate the important principles to be addressed from the Design Consideration of cloud applications (CO1) (10) (10)

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