

Reg. No. :

**Question Paper Code : 10892**

M.C.A. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Third Semester

MC 5304 — PROGRAMMING WITH JAVA

(Regulation 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define JVM.
2. Differentiate boxing and unboxing in Java.
3. What is a Hash table?
4. Define collection framework and what does it contain?
5. What is a package in java? Input and output are contained in which package?
6. State the features of Swing in Java.
7. What is Hibernate ORM?
8. Differentiate JSP and Servlets.
9. State the purpose of Garbage Collection in JAVA.
10. Define Cache and Proxy Servers.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Explain the different types of operators in Java. (6)  
(ii) Discuss the concept of Inheritance with example. (7)

Or.

- (b) (i) What is Encapsulation in JAVA? Explain with example. (6)  
(ii) Explain about various packages and API used in Java. (7)

12. (a) Explain the concept of JAVA Collection Framework with hierarchy. (13)

Or

(b) (i) Explain JAVA annotations with an example. (6)

(ii) Define wrapper classes. What is pre-main Method in JAVA? Explain with example. (7)

13. (a) Explain the basic components of JDBC. Explain in detail the different drivers of JDBC. (13)

Or

(b) Explain the architecture of Remote Method Invocation (RMI) and its packages. (13)

14. (a) (i) What is a container? Explain its states and features. (6)

(ii) Explain the tiered architectures of Enterprise Applications in JAVA. (7)

Or

(b) What is use of JSP and Servlet? Briefly explain any two Web-Frameworks in JAVA. (13)

15. (a) Explain the concept of Garbage Collection in JAVA. How objects can be unreferenced? Explain with a suitable piece of code. (13)

Or

(b) (i) Give the different InetAddress class methods used in JAVA with its description. (6)

(ii) Explain the basic URL Class Connection Methods with a sample program. (7)

PART C — (1 × 15 = 15 marks)

16. (a) (i) Explain the concept of Exception Handling with a suitable program. (5)

(ii) Design a basic calculator using Swing Fundamentals. (10)

Or

(b) (i) Explain the following with basic syntax: (5)

Meta Data

Stored Procedure

(ii) Write a simple Socket Program using JAVA to pass a message from client to server. (10)