



Seat No. _____

MASTER OF SCIENCE (INFO TECH & COM APP)-CS Examination
M.SC. (IT & CA) CS SEMESTER-1 JANUARY 2026 (Regular) JANUARY - 2026

CS-01 APPLICATION DEVEL. USING ADVANCE JAVA

Faculty Code : 017

Subject Code : 24CS-MSIT-CO-01-00001

Time : 2.30 Hours]

[Total Marks : 70

Instructions: All questions are compulsory.

- Q.1 (A) Answer the following: 4
- 1 What is the Spring Framework?
 - 2 How to inject a Spring bean into domain objects?
 - 3 _____ module of the Spring Framework is used for building web applications.
 - 4 _____ annotations is used to indicate a controller in Spring MVC.
- (B) Answer in brief (Any one out of two) 2
- 1 Explain CI.
 - 2 Explain SI.
- (C) Answer in detail (Any one out of two) 3
- 1 Explain CI with collection.
 - 2 Explain CI inheriting bean.
- (D) Write a note on (Any one out of two) 5
- 1 Write a program CI with Map.
 - 2 Explain Spring modules with its key concepts.
- Q.2 (A) Answer the following: 4
- 1 _____ contains the JdbcTemplate class and related tools.
 - 2 What is the primary purpose of JdbcTemplate in Spring?
 - 3 DriverManagerDataSource creates a new connection every time. [True/False]
 - 4 _____ method of JdbcTemplate is used to execute DML (INSERT, UPDATE, DELETE) statements.
- (B) Answer in brief (Any one out of two) 2
- 1 Explain variable in SPEL.
 - 2 Explain JMS.
- (C) Answer in detail (Any out of two) 3
- 1 Explain Spring with JPA.
 - 2 Explain HttpInvoker, Hessian in remote context.

(D) Write a note on (Any one out of two)

- 1 Write a note on SimpleJdbcTemplate with suitable example.
- 2 Write a note on PreparedStatement with suitable example.

Q.3 (A) Answer the following:

- 1 _____ method is used inside session only.
- 2 _____ is not an inheritance mapping strategy.
- 3 Database table configuration is not stored in .hbm file. [True / False]
- 4 Set hibernate.show_sql = log4j to avoid duplicate logs.

(B) Answer in brief (Any one out of two)

- 1 Define: Struts.
- 2 Define: Xstream.

(C) Answer in detail (Any one out of two)

- 1 Explain hibernate generator classes.
- 2 Explain Hibernate Framework in detail.

(D) Write a note on (Any one out of two)

- 1 Write a program to insert record (book_id, book_name, price) using Hibernate application with Annotation.
- 2 Write a program to use Hibernate with log4j 1.

Q.4 (A) Answer the following:

- 1 _____ collection allows duplicate elements.
- 2 _____ packages contain all the collection classes.
- 3 Maps is not a part of collection framework. [True / False]
- 4 Collection holds individual elements, while Map holds _____ entries.

(B) Answer in brief (Any one out of two)

- 1 Define Table per Subclass.
- 2 Define Bidirectional.

(C) Answer in detail (Any one out of two)

- 1 Explain one-to-many by set.
- 2 Explain one-to-many by bag.

(D) Write a note on (Any one out of two)

- 1 Write a program of Table per Hierarchy inheritance with annotation.
- 2 Write a program of Table per Subclass inheritance.

Q.5 (A) Answer the following:

- 1 When using component mapping, how are the columns of the component mapped in the database?
- 2 _____ is a key advantage of component mapping.
- 3 The clear() method is used to remove all key-value pairs from the invoking map. [True/False]

4 What is the primary design pattern used in the Struts framework?

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(B) Answer In brief (Any one out of two)

- 1 Explain component mapping.
- 2 Explain association mapping.

3

(C) Answer in detail (Any one out of two)

- 1 Explain the role of hibernate's session object.
- 2 Explain HQL with any two examples.

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- (D) Write a note on (Any one out of two)
Write a note on one-to-one mapping using primary key.
Write a program to execute the hibernate and struts.

