

B3.3-R5 : WEB TECHNOLOGIES

NOTE :

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Total Time : 3 Hours

Total Marks : 100

1. (a) Java supports single and multiple inheritances'-Justify the statement with suitable examples.
(b) Why we need object- oriented programming ? Explain its advantages.
(c) What is the difference between Encapsulation and abstraction in Java ?
(d) "Java strings are immutable", Justify your answer with example.
(e) Differentiate between throw and throws in Java with example.
(f) What is the difference between Compiler and Interpreter ?
(g) Write short note on Java package.

(7x4)
2. (a) Write Java program to swap two numbers.
(b) What are the types of constructors in Java ? Explain with example.
(c) What is Servlet ? Explain life cycle of Servlet with suitable example.

(6+6+6)
3. (a) What is overloading in Java ? Differentiate overloading and overriding in Java.
(b) Write JSP program to write and read cookies for the first and the last name..
(c) How is DAO used in spring framework ? Write the steps of integration of DAO in Spring framework.

(6+6+6)
4. (a) What are Hibernate query languages (HQL) ? Explain insert, update and delete clause of HQL with suitable example.
(b) How Runtime exception is handled in JSP ? Explain with example.
(c) Differentiate stateful and stateless protocol for session management.

(8+6+4)
5. (a) What is JSP ? Explain life cycle of JSP in brief.
(b) Discuss the types of Session tracking in Servlet in brief.
(c) What is Result set ? Write a program in Java to connect database using JDBC driver and retrieve the result.

(7+6+5)

6. (a) What is Spring MVC ? Discuss the steps of Spring MVC framework along with advantages and disadvantages.
- (b) What is spring bean ? Explain life cycle of spring bean along with initialization callbacks and destruction callbacks.
- (c) Explain CRUD operation using Spring API. **(6+6+6)**
7. (a) Explain and perform DML Operations through JDBC
- (b) What is requirement of Hibernate ? Discuss the components of architecture of Hibernate.
- (c) What are CRUD operations in Hibernate ? Explain the Hibernate Session interfaces API for CRUD operation. **(9+5+4)**

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