MCS-220

MASTER OF COMPUTER

APPLICATION

(MCA–NEW)

Term-End Examination

June, 2023

MCS-220 : WEB TECHNOLOGIES

Time : 3 Hours *Maximum Marks : 100*

Note : *(i)* *Question no. 1 is compulsory.*

(ii) *Attempt any* ***three*** *questions from the rest.*

1. (a) Differentiate between web server and web container. Give example for each. 5

   (b) Compare GenericServlet with HttpServlet.

   5

(c) What is session management ? Explain how cookies can be used to session management. 5

(d) Write JSP program using scriptlets that adds numbers from 1 to 10 and prints the results. Support your code with suitable comments. 5

(e) What is a ValueStack in struts ? How ValueStack is related to OGNL (Object Graph Navigation Language) ? 5

(f) Differentiate between Spring and Hibernate. 5

(g) What is Dependency Injection in spring framework ? Name the ways through which Dependency Injection can be performed. 5

(h) What is Bootstrap ? Briefly discuss the factors that makes Bootstrap a popular choice for the development of web applications. 5

2. (a) What is Spring Boot ? Write the steps to deploy Spring Boot web application as JAR and WAR files ? 10

   (b) What is Hibernate Query Language (HQL) ? How does HQL differ from SQL ? Write HQL queries for Select, Update, Delete and Insert (make suitable assumptions). 10

3. (a) Briefly discuss the term "Spring Data Repository". Also explain the CrudRepository, PagingAndSorting Repository, and JpaRepository interfaces of Spring DataRepository. 10

   (b) Explain the following : 10

   (i) Java Cryptography Architecture (JCA)

   (ii) Java Secure Socket Extension (JSSE)

4. (a) What is Spring Security ? Discuss the terms "Authentication" and "Authorization" in context of Spring Security. Also mention methods for both.

   10

(b) Why login form customization is required in an application ? Explain the customized login form configuration with a simple code. Also, discuss loginPage() and loginProcessing Url() in Spring Boot Security Configuration.   10

5. Write short notes on the following :   5×4=20

   (i)   Servlet Architecture

   (ii) JSP life cycle

   (iii) Annotations and its types

   (iv) Aspect-oriented programming