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MCS-220

**MASTER OF COMPUTER
APPLICATIONS (MCA) (NEW)**

Term-End Examination

December, 2021

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) What is design pattern ? What are the advantages of using patterns ? Explain UML diagram of Factory Design Pattern. 10
- (b) What is Servlet Programming ? Briefly explain servlet life cycle. Also write a servlet which displays “welcome to web programming.” 10
- (c) What is JSP ? What are JSP directives ? Explain the use of any two JSP directives with the help of a program. 10

- (d) Explain process of setting up database using Hibernate. 10
2. (a) Explain process of creating records using Spring Boot and Hibernate. 10
- (b) Explain how testing of custom login form can be performed with the help of an example. 10
3. (a) Explain issues and challenges of web security. 10
- (b) What is Spring Boot DevTools ? Briefly explain its features. 10
4. (a) Briefly explain Crud Repository of Spring Boot. 10
- (b) Explain Spring MVC configuration process. 10
5. Write short notes on the following : 5 each
 - (a) JSP implicit objects
 - (b) Role based login
 - (c) Session management
 - (d) J2EE Architecture

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