

No. of Printed Pages : 4

MCS–220

**MASTER OF COMPUTER
APPLICATIONS**

(MCA–NEW)

Term-End Examination

June, 2024

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. 5

- (b) What are “Creational Design Patterns” ?
Write their utility. 5

P. T. O.

- (c) How struts 2 differs from struts 1 ? List the various features of struts 1. 5
 - (d) What is Hibernate framework in Java ? What is the utility of Hibernate ? Give advantages of Hibenate framework. 5
 - (e) Differentiate between load() and get() methods. 5
 - (f) Explain the term Aspect Oriented Programming with suitable example. 5
 - (g) Compare spring boot and spring MVC. 5
 - (h) What is message digest ? Write the steps to send encrypted data with message digest and for the validation of encrypted data. 5
2. (a) Explain the various components of J2EE architecture with suitable block diagram. 7
- (b) Explain the servlet life cycle. Also compare the generic servlet with HTTP servlet. 8

- (c) Discuss the role of cookies in session management. How does persistent cookies differ from non-persistent cookies ? 5
3. (a) Explain the cooking and flow of struts 2 with suitable block diagram. 10
- (b) How does Built-in Java Annotation differ from Java Custom Annotation ? Briefly discuss the various annotations classified under each. 10
4. (a) What is spring boot ? Explain the need of spring boot. Describe the working of spring boot with suitable block diagram. 8
- (b) Explain any *four* of the following web application security vulnerabilities :4×3=12
- (i) Cross site scripting
 - (ii) Cross site request forgery
 - (iii) SQL injection
 - (iv) Denial of Service
 - (v) Insecure direct object reference

5. Write short notes on the following : $4 \times 5 = 20$

- (a) Java Secure Socket Extension (JSSE)
- (b) Spring security modules
- (c) Role Based Access Control (RBAC)
- (d) Cross Site Request Foregery (CSRF)
- (e) Hibernate Query Language (HQL) and Insert, Delete, Update, Select queries in HQL