

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

Term-End Examination

December, 2024

**MCS-051 : ADVANCED INTERNET
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 Servlet programming ? How is it different from JSP programming ? 5
- (b) Create a database of books in a library. Write a program using JSP and JDBC to display details of the books including book title, author, ISBN, price etc. 10
- (c) What is EJB ? What is session bean ? Explain lifecycle of stateless session bean with the help of a diagram. 5

- (d) What is SGML ? Write its basic characteristics. 5
- (e) What is web security ? What is authentication ? How is it different from authorization ? 5
- (f) Explain the use of JSP : include action with the help of an example. 4
- (g) Explain how to produce the following in XML : 6
 - (i) &
 - (ii) Double quote character
 - (iii) Single quote character
- 2. (a) Explain servlet life cycle. What is use of service the () method of HTTP servlet ? 10
- (b) What is message driven bean ? Explain the advantage of message driven bean. 5
- (c) Explain how does EJB container assist in transaction management and persistence. 5
- 3. (a) Write an XML document to represent Bank Account details, which includes name, account number, account type, bank name, branch, bank balance. Also describe this document. 10

- (b) What is SSL ? How does it work ? Describe security measures provided by SSL. 10
- 4. (a) What are restrictions on EJB ? 5
 - (b) Explain servlet chaining. 5
 - (c) What are cookies ? How are they used in servlet programming ? Explain. 5
 - (d) Explain JNDI authentication with the help of small code. 5
- 5. (a) Explain JSP scripting elements in brief. 10
 - (b) Explain the use of any *four* JSP implicit objects. 6
 - (c) What are the different procedures of systems recovery ? 4

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