

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

Term-End Examination

June, 2026

**MCS-051 : ADVANCED INTERNET
TECHNOLOGIES**

Time : 3 Hours

Maximum Marks : 100

Note : *Question no. 1 is compulsory. Attempt
any **three** questions from the rest.*

1. (a) What is Servlet ? How Generic servlet differs from Httpservlet ? Compare servlets with JSP. Briefly discuss the life cycle of servlet. 10
- (b) Describe the utility of JSP in internet programming. Explain the scripting elements of JSP with the help of an example program. 10

- (c) Describe the utility of Java Beans. Explain the life cycle of stateless-session bean with the help of a diagram. 10
- (d) Explain two-way SSL authentication using JNDI. Write code block to support your explanation. 10
2. (a) Describe the following terms in context of web security : 10
- (i) Availability
 - (ii) Accountability
 - (iii) Confidentiality
 - (iv) Integrity
- (b) What is XML ? Compare XML with HTML and SGML. 10
3. (a) What is a DTD ? Explain the process of checking correctness of a DTD, with the help of an example. 10

- (b) How entity bean differs from session bean ? Explain the life cycle of entity bean with the help of a diagram. Also, explain use of `ejbLoad` and `ejbStore` methods. 10
4. (a) What are Cookies ? Explain `setMaxAge` and `getDomain` method of cookie class. 5
- (b) How records are inserted in database using JSP ? Explain with the help of a code, support your code with suitable comments. 5
- (c) Describe the utility of request object and session object of JSP. 5
- (d) Explain internal entity and external entity of XML, with the help of an example for each. 5
5. Write short notes on following : 4×5=20
- (i) Advantages by web services
 - (ii) Session tracking in servlets
 - (iii) JNDI and its utility
 - (iv) Restrictions of EJB

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