

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

**Term-End Examination
December, 2025**

**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 JSP ? How does JSP differ from Servlets ? Explain the life-cycle of servlet with a suitable diagram. 10
- (b) Describe JDBC. Also discuss its utility. List and explain the types of JDBC drivers. 10

- (c) What is EJB ? Describe the goals of EJB. Explain any *four* services offered by EJB. 10
- (d) Explain JNDI authentication, with the help of an example. 10
2. (a) Differentiate between the following : 5+5
- (i) Non-validating parser and Validating parser
 - (ii) Session Bean and Entity Bean
- (b) Describe the use of the following implicit objects of JSP, with the help of an example code : 10
- (i) The out object
 - (ii) The pageContext object
 - (iii) The config object
 - (iv) The page object
 - (v) The exception object
3. (a) Compare the life-cycle of stateless session bean and stateful session bean, with the help of a block diagram for each. 10

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- (b) Describe SSL Authentication. Explain the components of SSL client application. 10
4. (a) Explain the various web security objects. Also, describe the web security object dependencies, with the help of a diagram. 10
- (b) Write a JSP program to take date of birth as input and display the age of the person. 5
- (c) Describe and compare the Index Property and Bound Property of Java Beans. 5
5. Write short notes on the following : $2 \times 10 = 20$
- (a) Relation of applets and servlets with JSP
- (b) Message-driven bean and its uses
- (c) Scripting elements in JSP
- (d) Web security concepts

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