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**MCS-051**

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

**Term-End Examination**

**June, 2023**

**MCS-051 : ADVANCED INTERNET  
TECHNOLOGIES**

*Time : 3 Hours*

*Maximum Marks : 100*

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**Note :** *Questions number 1 is compulsory.*

*Attempt **three** questions from the rest.*

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1. (a) What is a Servlet ? Explain Inter-Servlet Communication with the help of an example. 10
- (b) Create a database of books in a library. Write a program using JSP and JDBC to display details of the book(s), including title, author-name, ISBN, and price. 10

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- (c) Briefly describe goals of EJB. Explain any *four* services offered by EJB. 7
- (d) What is XML ? Write basic differences between XML and SGML. 5
- (e) Explain all four types of JDBC drivers. Give advantages and disadvantages of each. 8
2. (a) What are JSP implicit objects ? Explain use of any *three* implicit objects of JSP. 8
- (b) Explain use of jsp : include action with the help of an example. 5
- (c) Explain life-cycle of stateless-session bean with the help of a diagram. 7
3. (a) What is message-driven-bean ? List any *three* message-driven-beans. 5
- (b) What is SSL ? Describe the two-way SSL authentication in brief. 5
- (c) Explain the relation of applets and servlets to JSP. 10

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4. (a) What is DTD ? Explain how DTD is created with the help of an example. 10
- (b) What is JDBC ? Explain use of ResultSet and executeQuery in JDBC programming with the help of an example program. 10
5. (a) Explain the following elements of JSP, with the help of example program : 6
- (i) Scriptlets
- (ii) Expressions
- (b) What is JNDI authentication ? Explain with the help of a suitable example. 8
- (c) Explain the session tracking in servlet is performed using cookies, with the help of an example. 6