

**MCA (Revised)**

**Term-End Examination**

**01043**

**December, 2018**

**MCS-051 : ADVANCED INTERNET TECHNOLOGIES**

*Time : 3 hours*

*Maximum Marks : 100*

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

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1. (a) Explain the following basic elements of JSP, with the help of an example : 6
- (i) Scriptlets
  - (ii) Expressions
  - (iii) Directives
- (b) Create a database of students who are pursuing their studies in a university, at graduation or at post-graduation level. Write a program using JSP and JDBC to display details of student(s) including name, department of study, programme of study and semester of study. 10

- (c) Explain the concept of Servlet Chaining. Explain the role of Request Dispatcher in servlet chaining. 4
- (d) Write a servlet program which takes your name, age and address from an HTML form and displays it. 10
- (e) What is a session bean ? Explain the life cycle of stateless session bean and stateful session bean with the help of suitable diagrams. 10
2. (a) Explain the advantages of XML over HTML and SGML. 5
- (b) What is an XML parser ? What are the two types ? Briefly explain. 5
- (c) Explain the relation of applets and servlets to JSP. 10
3. Differentiate between the following : 20
- (a) Session bean and Entity bean
- (b) Authentication and Authorization
- (c) Static web page and Dynamic web page
- (d) Servlet context and Servlet config

4. (a) (i) Write the XML declaration to specify that "kph" should be replaced by "Kilometers per hour" in the document. 3
- (ii) How can one give effect to this expansion in the document? 2
- (iii) How will you produce the following characters in an XML document? 5
- <
- >
- &
- '
- "
- (b) Explain with the help of an example how two-way SSL authentication is used in a Java client. 10
5. (a) Explain the different types of JDBC drivers and briefly list their advantages and disadvantages. 10
- (b) Briefly explain the different procedures of system recovery. 4
- (c) Explain any three advantages of EJB architecture. 6