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13MCA42

**Fourth Semester MCA Degree Examination, Aug./Sept.2020**  
**Advanced Java Programming**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

1.
  - a. What is a Servlet? List out the advantages of a servlet. Write a servlet program that generates a simple HTML page with a "Welcome" message. (10 Marks)
  - b. List out the HttpServletResponse headers. Discuss on the methods to set the value of the response headers. (10 Marks)
  
2.
  - a. What is a Cookie? List out the advantages of cookies. With a code snippet explain how cookies are handled in java servlets. (10 Marks)
  - b. Compare session and persistent cookies. (04 Marks)
  - c. Discuss on the types of JSP scripting elements. (06 Marks)
  
3.
  - a. What is JSP? Discuss on the different types of JSP tags with syntax and example. (12 Marks)
  - b. Explain the use of import attribute, with an example. (04 Marks)
  - c. What is the difference between <jsp:include> tag and include directive? (04 Marks)
  
4.
  - a. Explain the advantages of using java beans in a JSP page. (03 Marks)
  - b. Discuss on how to create packages and interfaces in java with suitable examples. (12 Marks)
  - c. What is a jar file? How is it created? (03 Marks)
  - d. List out the new java.lang subpackages. (02 Marks)
  
5.
  - a. Define the terms:
    - i) Persistence
    - ii) Introspection
    - iii) Bound property. (06 Marks)
  - b. Discuss on any 4 built-in annotations of java. (06 Marks)
  - c. Explain the steps involved in creating a java bean. (08 Marks)
  
6.
  - a. With code snippets explain the steps involved in using JDBC to connect with a database. (08 Marks)
  - b. What are Scrollable Resultsets? Explain their use with a programming example. (12 Marks)
  
7.
  - a. Discuss on the different types of enterprise java beans. (12 Marks)
  - b. Compare stateless and stateful session beans. (04 Marks)
  - c. Discuss on the life-cycle of a message driven bean. (04 Marks)
  
8.
  - Write short notes on the following:
    - a. JDBC data types (05 Marks)
    - b. JSP expressions (05 Marks)
    - c. Single thread model interface (05 Marks)
    - d. Deployment descriptor. (05 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

