

# CBCS SCHEME

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16/17MCA41

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

Time: 3 hrs.

Max. Marks: 80

**Note: Answer FIVE full questions, choosing ONE full question from each module.**

### Module-1

- 1 a. What are servlets and their functions? Write a simple servlet program. (08 Marks)
- b. List the techniques used in session tracking. Explain session tracking using HttpSession API. (08 Marks)

**OR**

- 2 a. With an example servlet, explain how to use cookies to remember user preferences. (10 Marks)
- b. What are the need, advantages and benefits of JSP? (06 Marks)

### Module-2

- 3 a. Explain different types of JSP elements with an example for each. (10 Marks)
- b. Write a JSP program to include an applet along with necessary applet code. (06 Marks)

**OR**

- 4 a. Differentiate between <jsp:include> and <jsp:forward> tags with suitable example. (06 Marks)
- b. Write a JSP program to accept book details (booknumber, title and author) through HTML. Also create a Javabean class, populate the bean and display the same information through JSP. (10 Marks)

### Module-3

- 5 a. Mention and explain built in Annotations in Java. (10 Marks)
- b. How are jar files created and used? Explain the jar command options with example. (06 Marks)

**OR**

- 6 a. What is an interface? Explain how partial implementation of interfaces can be achieved with example. (10 Marks)
- b. Define a java bean. State its advantages and features. (06 Marks)

### Module-4

- 7 a. Briefly explain the basic JDBC data types. (08 Marks)
- b. Explain batch updates with code snippet. (08 Marks)

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.

OR

- 8 a. With the help of an example program, explain the steps to obtain connection to database and execute selected query. (10 Marks)
- b. What is prepared statement object? Explain with example. (06 Marks)

Module-5

- 9 a. Write a brief note on session beans and explain life cycle of a stateful session bean with the help of a neat block diagram. (10 Marks)
- b. What is entity bean? Explain the Java persistence model. (06 Marks)

OR

- 10 a. Demonstrate with a program how to implement entity bean. (10 Marks)
- b. Explain in brief the various container services provided by EJB. (06 Marks)

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