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## B. TECH. (SEM V) THEORY EXAMINATION 2019-20 WEB TECHNOLOGIES

Time: 3 Hours Total Marks: 70

**Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

#### SECTION A

### 1. Attempt all questions in brief.

 $2 \times 7 = 14$ 

- a. Define Path in JDK. How path is different from Class path?
- Define webpage with its type. Discuss responsive webpage with example.
- c. Define box model in CSS with block diagram.
- d. Describe garbage collection and demonstrate how it is functioning?
- e. Define DHTML with suitable example.
- Compare JDBC and ODBC. List the different types of JDBC drivers.
- g. Discuss about tomcat server. How to set the Classpath for servlet in tomcat server?

#### SECTION B

### 2. Attempt any three of the following:

 $7 \times 3 = 21$ 

- a. Compare object-oriented programming and object-based programming with example. List the features of object oriented programming. Write a program in Java to demonstrate use of this keyword in constructor.
- b. Define thread. How to create a thread in java? Write a program that executes two threads. One thread will print the even numbers and another thread will print odd numbers from 1 to 5.
- c. Discuss XML. Which technologies is used to define the structure of XML document? Explain and demonstrate with an example.
- d. Discuss Socker and ServerSocket in java with its package. Write a program in java to demonstrate, how the communication is, establish between client and server?
- e. Discuss EJB. Explain EJB architecture. What are its various types?

#### SECTION C'

## 3. Attempt any one part of the following:

 $7 \times 1 = 7$ 

- (a) Explain AWT and its controls How the layout manager manage the AWT controls? Write a program to demonstrate graphics (i.e. line, circle, rectangle etc.) using Frame, Panel, and layout manager.
- (b) Explain Applet with its life cycle. Write a program to demonstrate simple java applet to display any image. Compare Applets over HTML.
- 4. Attempt any one part of the following: https://www.aktuonline.com 7 x 1 = 7
  - (a) Discuss DTD. How the DTD is different from XSD? Demonstrate to create a XML document of 10 students of third year. Add their roll numbers, marks obtained in 5 subjects, total marks and percentage and validate using DTD.
  - (b) Explain CSS. What are the CSS frameworks? Explain in brief. What are the different ways of using the stylesheet? Write a CSS rule that makes all the text 2.5 times larger than the base font of the system.

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# 5. Attempt any one part of the following:

 $7 \times 1 = 7$ 

- (a) Discuss AJAX. Explain the application of AJAX with the help of suitable examples.
- (b) Compare Java and JavaScript. Explain and demonstrate 5 different types of objects in JavaScript with example.

# 6. Attempt any one part of the following:

 $7 \times 1 = 7$ 

- (a) Explain JDBC application architecture. List the various types of JDBC drivers. Discussthe steps to connect database with the web application using JDBC. Write a program to demonstrate how to retrieve the data from a table using JDBC API.
- (b) Explain JavaBeans. Why they are used? Discuss setter and getter method with java code.

# 7. Attempt any one part of the following:

 $7 \times 1 = 7$ 

- (a) Explain Servlets with its life cycle. How its life cycle is different from the life cycle of JSP? Explain with an example.
- (b) Discuss JSP in details. What are JSP directives? Explain various types of directives with suitable example.

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