B.TECH
(SEM VI) THEORY EXAMINATION 2022-23
WEB TECHNOLOGY

Time: 3 Hours   *Total Marks: 100*

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

SECTION A

1. **Attempt *all* questions in brief.**   2 x 10 = 20

   (a) Explain the concept of client and server. Also describe how a Web Server is different from normal server.
   (b) Differentiate between HTTP and HTTPS.
   (c) Differentiate between internet and WWW.
   (d) Compare Internet services with protocols.
   (e) Discuss the history of WWW in brief.
   (f) Compare Java Class and Interface.
   (g) Write a Simple program in Java to create an Applet able display "Hello World" message upon execution.
   (h) Differentiate between threads created by Thread class and Runnable interface.
   (i) Describe classes and objects in Java. Describe the relationship with suitable real world example.
   (j) Discuss the concept of layouts and their types in AWT. Differentiate between Border Layout and Flow Layout.

SECTION B

2. **Attempt any *three* of the following:**   10x3=30

   (a) Illustrate the concept of multi-threading. Write a code in Java to create three threads having name Red, Blue and Green. Justify why should we use run() method instead of start() to launch a Thread.
   (b) Discuss the applications of XML. Also compare XSD and DTD.
   (c) Describe <form> tag and its attributes. Also differentiate GET and POST methods.
   (d) Illustrate Java Beans and their properties in detail.
   (e) Explain the implicit and explicit objects in JSP. Describe request, response and session objects in detail.

SECTION C

3. **Attempt any *one* part of the following:**   10x1=10

   (a) Outline the differences between Encapsulation and Abstraction. Illustrate with suitable example.
   (b) Describe method overriding in Java. Compare method overriding and method overloading with suitable example.

4. **Attempt any *one* part of the following:** 10x1=10

(a) Describe frames in HTML Write markup to create a web page that contains the three vertical columns, having background color as red, blue, green respectively.

(b) Design a self-describing XML DTD for storing email data.

5. **Attempt any *one* part of the following:** 10x1=10

(a) Discuss about Math and Date Objects in JavaScript. Write a program in JavaScript to display digital clock showing HH:MM:SS.

(b) Discuss about Java Socket programming. Write a program in Java create client and Server using Socket, Server Socket class.

6. **Attempt any *one* part of the following:** 10x1=10

(a) Describe about JDBC drivers and different types of JDBC drivers. Write a java code to fetch and print the data from a Table.
Table name: EMPLOYEE
Column Name: ID, EMP_NAME, EMP_DEPT, EMP_SAL

(b) Compare following:
   (1) Stateful Session bean and Stateless Session bean
   (2) Statement and Prepared Statement

7. **Attempt any *one* part of the following:** 10x1=10

(a) Describe Java Servlets. Write Index.html to input the some details (name, age, Message) from user. Also write a Servlet to fetch and display the same data upon the submission of request.

(b) Compare Servlet and JSP. Justify why Servlets performs faster in comparison to JSP. Explain the Life cycle of JSP with suitable diagram.