1. (a) Explain how would you create an Ordered list.
   (b) Create a HTML table with columns for a country-name, national sport, national flower, national animal and national tree. There must be at least five states as rows in the table. [6+10]

2. (a) Create a javascript which has event handlers for the buttons “red”, “blue”, “green”, “yellow” and “orange” which must produce messages stating the chosen favorite color. The event handler must be implemented as a function, whose name must be assigned to the `onclick` attribute of the radio button elements. The chosen color must be sent to the event handler as a parameter.
   (b) Insert an image into a web page. Write a script which displays a message when the mouse is over the image. The co-ordinates of the mouse should be displayed if click is attempted on the image. [8+8]

3. (a) Explain the use of XML schema in the web designing application.
   (b) Write about the importance of namespaces in XML. [8+8]

4. Take the `TickTock` Bean available in BDK, build an application which controls the `Colors` Bean. Develop the necessary code to exhibit the bound properties of java beans with the above mentioned beans. [16]

5. What is a servlet? Explain lifecycle of a servlet. Illustrate with an example program. [16]

6. (a) Write about the JSP processing.
   (b) Explain the components of JSP. [8+8]

7. (a) Which is the biggest scope provided by JSP? Explain it.
   (b) Develop a JSP which uses two Beans in different scopes. [8+8]

8. (a) Discuss about prepared statements.
   (b) Write a note on `java.sql.Driver` class. [8+8]

*****
1. Explain the following terms related to HTML table:
   (a) Cell padding and spacing
   (b) Borders
   (c) Formatting content in Table cells
   (d) Nested tables. [4+4+4+4]

2. (a) Compare and contrast HTML and DHTML.
   (b) Write a javascript to validate a form consisting of a username. Also navigate to another web page after validation. [8+8]

3. (a) With a suitable example explain the creation of namespaces in XML.
   (b) Explain the various types of XML schema data types used. [8+8]

4. (a) Explain the following given interfaces and their usage:
   i. AppletInitializer
   ii. BeanInfo
   iii. Customizer
   iv. DesignMode.
   (b) Explain the significance of Enterprise Java Beans in the present day ‘backend business code’. [8+8]

5. (a) Create a HTML form with three input fields first name, last name and e-mail. Pass these values to a servlet. In the servlet, verify all input fields are not null and display them back to client.
   (b) Give the signature of a method which in used to read bytes from the stream for a servlet. Explain its usage. [10+6]

6. Explain JSP application design with suitable example? [16]

7. (a) Develop a JSP to keep track number of users and display a message “You are n<sup>th</sup> visitor” where n is number of user.
   (b) Write a detail note on JSP escape sequences. [10+6]

8. Explain the process of getting/accessing metadata for a resultset. [16]
1. (a) Create a simple HTML page which demonstrates the use of the various types of lists. Try adding a definition list which uses an unordered list to define terms.

(b) Write a program to construct a binary tree and to traverse the same in post-order. [8+8]

2. (a) Create a javascript which has event handlers for the buttons “red”, “blue”, “green”, “yellow” and “orange” which must produce messages stating the chosen favorite color. The event handler must be implemented as a function, whose name must be assigned to the onclick attribute of the radio button elements. The chosen color must be sent to the event handler as a parameter.

(b) Insert an image into a web page. Write a script which displays a message when the mouse is over the image. The co-ordinates of the mouse should be displayed if click is attempted on the image. [8+8]

3. (a) Give the syntax of an XML document and explain how a basic XML document is created with an example.

(b) Explain the following terms related to Document Type Definition:
   i. elements
   ii. attributes & entities
   iii. internal & external entities. [8+8]

4. Write about the following:
   (a) Bean methods
   (b) Bean properties
   (c) Bean events. [4+8+4]

5. (a) Create a Servlet that displays the current date and time.

   (b) Make a Comparison of JSDK and Apache Tomcat. [10+6]

6. (a) Develop a JSP to accept users first name and then welcome the user by name.

   (b) Discuss about javax.servlet.jsp.tagext package. [10+6]

7. (a) Develop a JSP with a Bean in the application scope.

   (b) What is a scriplet? Write about scriplet elements. [8+8]
8. Write short notes on:
   
   (a) Connection Interface
   (b) Statement Object
   (c) Inner join
   (d) Execute Query Method.

   *****
1. (a) What are the different types of lists in HTML? Explain how these lists are created in HTML with suitable examples.
   (b) Explain how a basic table is created using HTML. [8+8]

2. (a) Describe the primitive data types that JavaScript uses.
   (b) Write a script that reads an integer and determines and displays whether it is an odd or even number. [16]

3. (a) Create a DTD for a catalog of four-stroke motorbikes, where each motorbike has the following child elements: `make`, `model`, `year`, `color`, `engine`, `chasis number` and `accessories`. The `engine` element has the child elements `engine number`, `number of cylinders`, `type of fuel`. The `accessories` element has the attributes like `disc brake`, `auto − start & radio`, each of which is required and has the possible values `yes` and `no`. Entities must be declared for the names of the popular motorbike makes.
   (b) Give the advantages and disadvantages of XML schemas. [8+8]

4. Take the `TickTock` Bean available in BDK, build an application which controls the `Colors` Bean. Develop the necessary code to exhibit the bound properties of Java beans with the above mentioned beans. [16]

5. (a) What is a Cookie? Give the information that is saved for each cookie on the user’s machine.
   (b) Explain HttpSession Interface. [8+8]

6. (a) What are the limitations of Servlets? How JSP over comes these Problems.
   (b) Discuss about Tomcat Server. [8+8]

7. Discuss about of session scope- manually and automatically with suitable examples. [16]

8. Write short notes on following:
   (a) Pure Java driver
   (b) Driver Manager
   (c) SQL query
   (d) Order by clause. [4×4]

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