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|  <h1 style="text-align: center;">SASTRA</h1> <p style="text-align: center;">DEEMED TO BE UNIVERSITY</p> <p style="text-align: center;">THINK DEED THINK TRANSPARENCY THINK SASTRA</p> | <p style="text-align: center;">School of Computing</p> <p style="text-align: center;">First CIA Exam – Aug 2024</p> <p>Course Code: INT316</p> <p>Course Name: Modern Web Applications</p> <p>Duration: 90 minutes Max Marks: 50</p> |
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PART A

Answer all the Questions



5 x 10 = 50

1. Define the following terms and specify its functionality:-
W3C, DNS, Frameset, Web Server, Static & Dynamic web application.
2. Write a HTML code and apply CSS to achieve the following:
 - a) Transform the text to uppercase and change the text color while moving the mouse pointer on the text.
 - b) Use inline style to change the inner space of <h1> element.
 - c) Use an internal style for an element, to load an image as background and change text color.
 - d) Design a table as given below:-

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| 1 | 2 |
| 3 | 4 |

3. Your project manager has assigned you the task of creating a feedback form for a new client who runs an online e-commerce store. The form will be used to collect user feedback on various aspects of the website, such as design, ease of use, and overall user experience. Design a feedback form to collect

- **user information** : user's name, comments, email
 - **feedback categories** (allowing users to select more than one aspects of the site they liked, including: Site design, Links, Ease of use, Images, Source code)
 - Referral sources (asking user to select any of the following: Search engine, Links from another site, friends, other)
 - Site Rating: (allowing users to select rating values between 0 and 5)
 - **Submission**: A submit button that allows users to send their feedback.
4. Create an external CSS file and include any five CSS selectors to apply the styles on <div> tag. What will be the output for each selector?
 5. Write a JavaScript to get the learner's detail as follows: - Use prompt dialog to get Regno, Name and three subject marks. Compute the letter Grade as S, A, B, C, D and F. Display the learner detail on the browser using inline styles.

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PART A


Answer any Five Questions

5 x 10 = 50

1. Write your answer for the following:
 - a) Create XML document: "I am passionate to develop modern web applications".
 - b) Write a JavaScript function to show your name for a button click.
 - c) How does a JavaScript function can be called using addEventListener? Give an example code.
 - d) Define XSLT. State its application.
2. Design a HTML form to swap the content of two text box using DOM: create two text box, a button and relevant labels using DOM and swap the content.
3. Write a JavaScript code to populate the employee id in the drop-down box. The employee ids should be between 1111 and 2222 and starts with '#' symbol. eg:- #1115
4. Create an XML document for the following: The root tag has three different types of child elements (element with child, element with text, element with text and child element). Include attributes with

ID, CDATA and NMTOKEN types. Validate your XML document using Document Type Definition.

5. (a) Brief about the role of Web Client and Web Server in the three tier architecture. (3)
(b) Write a PHP code to store 'N' number of fruits using an array and find the location of a particular fruit in the array. The output should be shown on <h1> tag with color style. (7)
6. You are tasked with creating a simple web application that checks if a user-entered city exists in a predefined list of cities. A PHP script is used to process the form and return a message indicating whether the entered city is found or not. The list of cities can be created using array.

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PART A

Answer any FIVE Questions

5 x 10 = 50

1. (a) How can you split the browser into two screens to show different web pages? Design HTML code.
 (b) What are the types of CSS can be included for the HTML pages? Give an example code.
 (c) Write a JavaScript function to find whether the given text is palindrome or not.
 (d) Validate the following element using internal DTD:

```
<Participant participantId="P101"> <event Name="debugging" />
</Participant>
```
2. Design a HTML page with external CSS: Include table, unordered list, image, formatting and heading tags. Apply necessary styling attributes for the above mentioned tags and explore about online Programmes at SASTRA.
3. Write a client side script to validate the following fields available in the book issue form of Library system.
Book Id : should be 5 digits, starting with letter 'B'
Book Title: should be a string with minimum 5 characters and maximum 50 characters
Issue Date: should not be less than or greater than current date.
StudRegno: should start with 'BT' and followed by 4 digits. The number should be between 2000 and 4000
Stud Name: should not be blank and symbols not allowed.

4. Create an XML document to explore your personal and academic details. Associate your XML document with internal DTD. The XML document should have the following:
 - Two child elements for the root element as <personal> and <academic>.
 - Explore the <personal> element with minimum two child elements and optional attributes.
 - The <academic> element possesses <schooling>, <graduation> and <placement> child elements. Explore the elements with proper details.
 - Any one of the parent elements should carry an attribute with mandatory value.
5. Create a Database 'MyDB' with login and register table using MySQL. Design a Login form for the students, with username and password fields. Students can enter regno as username and mobileNo as password. Validate username and password using PHP. The valid students only can enter their regno, name, placedCompany, mobileNo and emailId in the registration page. Use sessions and include necessary validations taken place in the client side using JavaScript.
6. Imagine you are tasked with developing a modern web application to fulfil a client's business requirements. What technologies would you use to enhance the appearance, functionality, and interactivity of the application? Additionally, explain the roles of web browsers, web servers, and database management systems in the overall web development process.