GUJARAT TECHNOLOGICAL UNIVERSITY

BE 6 SEMESTER – OLD PAPER – W22 TO S26 – QUESTION BANK

Subject Name & Code: Web Programming - 3160713

Chapter 1: Introduction to WEB / Web Design

Repeated Questions:

1. Website Design Principles and Issues:

- **Q.** Discuss website design principles in detail. **(WINTER 2022; WINTER 2025, 4 Marks)**
- **Q.** Explain different design issues at the time of designing an effective website. **(SUMMER 2023, 4 Marks; WINTER 2023, 4 Marks; SUMMER 2024, 4 Marks)**

2. HTTP:

- **Q.** What is HTTP? Explain HTTP Request and Response. / Explain HTTP Request and Response with header details. Also explain various http status codes. **(SUMMER 2023, 3 Marks; WINTER 2023, 3 Marks)**

Other Important Questions:

1. Web Basics:

- **Q.** Briefly discuss: Client Server Architecture. **(WINTER 2025, 3 Marks)**
- **Q.** Define following: 1. URL 2. HTTP 3. Web Server. **(SUMMER 2024, 3 Marks)**

2. Navigation:

- **Q.** What is navigation? Discuss the characteristics of effective navigation. Also write code of html page to open a link in a new browser window. **(WINTER 2022)**

Chapter 2: Basics of HTML and CSS

Repeated Questions:

1. HTML Elements: meta, Frames and Lists:

- **Q.** State different usages of <meta> tags. / Explain meta tag? How it is useful by search engine? **(WINTER 2022; SUMMER 2023, 7 Marks; WINTER 2023, 3 Marks - includes metadata inclusion and meta tag syntax for expiration/caching; WINTER 2025, 3 Marks)**
- **Q.** Explain with example frames in HTML. / Explain frame and frameset with example. **(WINTER 2022; SUMMER 2023, 7 Marks; WINTER 2023, 7 Marks)**
- **Q.** Explain with example: Ordered list and Unordered list. **(SUMMER 2023, 4 Marks; SUMMER 2024, 3 Marks)**

2. CSS: class, id and Style Sheets:

- **Q.** Differentiate between class and id in CSS. **(WINTER 2023, 4 Marks OR; SUMMER 2024, 7 Marks; WINTER 2025, 7 Marks)**
- **Q.** Explain different ways to write the CSS with example. / What is cascading style sheet (CSS)? Compare inline, embedded and external style sheet with example. **(WINTER 2022, 7 Marks; SUMMER 2024, 7 Marks)**

3. Bootstrap:

- **Q.** What is Bootstrap? What Bootstrap package contains? / Why we use bootstrap? Show a basic structure of bootstrap grid. **(SUMMER 2023, 3 Marks; WINTER 2023, 7 Marks)**

Other Important Questions:

1. HTML Tags:

- **Q.** Enlist and explain the usage of various formatting related tags available in HTML. **(WINTER 2025, 7 Marks)**
- **Q.** Briefly discuss various tags available in HTML5. **(WINTER 2025, 4 Marks)**
- **Q.** Explain working of <iframe> tag in HTML with example. **(SUMMER 2026, 3 Marks)**
- **Q.** Explain following with example: <pre> tag, <sup> tag, character encoding in HTML. **(SUMMER 2023, 7 Marks)**

2. HTML Forms:

- **Q.** Explain any two attributes and any two methods available for the <input> tag in HTML. **(SUMMER 2026, 4 Marks)**
- **Q.** Explain HTML5 form validation attributes using example. **(SUMMER 2023, 7 Marks)**
- **Q.** Explain HTML form attributes with syntax. Make HTML form to collect details of a book in library such as BookTitle (textbox), AuthorName (textbox), Publication (selectionbox), Domain (checkbox) and comments (textarea) in tabular format. **(SUMMER 2023, 7 Marks OR)**
- **Q.** Explain HTML form attributes with syntax. Write a program to create sports registration page in HTML that contains EnrollmentNo(textbox), Secretkey(password), address(textarea), College(selectionbox), Branch(radiobutton), hobby(checkbox). **(WINTER 2023, 7 Marks OR)**

3. HTML Tables and Lists (Programs):

- **Q.** Create below table using HTML. [Diagram required – refer to the original question paper] **(SUMMER 2026, 7 Marks)**
- **Q.** Explain usefulness of rowspan and colspan attributes in HTML Table. Also, Write HTML code to print the following table. [Diagram required – refer to the original question paper] **(SUMMER 2024, 7 Marks OR)**
- **Q.** Write HTML code for creating following table also explain table element with its attributes. [Diagram required – refer to the original question paper] **(WINTER 2023, 7 Marks)**

- **Q.** Write a code for the given output using list in HTML. [Diagram required – refer to the original question paper] **(WINTER 2023, 4 Marks)**

4. CSS Properties, Selectors and Animation:

- **Q.** Create an animation using CSS to rotate a rectangle by 360 degree around its center in 8 seconds. **(WINTER 2025, 7 Marks OR)**
- **Q.** Describe how the CSS position property works with the values static, fixed, relative, and sticky. **(SUMMER 2026, 4 Marks)**
- **Q.** Write an HTML snippet with CSS for following effects: 1. link: after visited red color and before visited green color 2. table with even rows black and odd rows green color. 3. Text color-green, Text case-uppercase. **(WINTER 2022, 7 Marks OR)**
- **Q.** Discuss following properties with respect to CSS: (1) Z-Index positioning (2) Relative positioning. **(SUMMER 2023, 4 Marks)**
- **Q.** What is Pseudo-Elements in CSS? Explain through example. **(SUMMER 2023, 4 Marks OR)**
- **Q.** What is the use of wildcard selector in CSS? Discuss wildcard selectors with example. **(WINTER 2023, 4 Marks)**

Chapter 3: Client Side Scripting using JavaScript

Repeated Questions:

1. JavaScript Basics, DOM and Popup Boxes:

- **Q.** Briefly discuss the types of JavaScript can be used in HTML pages. / What are the different ways to use JavaScript in html document? **(WINTER 2023, 3 Marks; WINTER 2025, 3 Marks)**
- **Q.** Write a note on: DOM. / Explain the Document Object Model. **(WINTER 2023, 7 Marks; SUMMER 2024, 4 Marks; WINTER 2025, 4 Marks)**
- **Q.** Briefly explain the types of popup boxes available in JavaScript. **(SUMMER 2023, 7 Marks OR; WINTER 2023, 3 Marks OR; SUMMER 2024, 3 Marks OR; WINTER 2025, 3 Marks OR)**

2. Validation Using Regular Expression:

- **Q.** Write a JavaScript function to validate an email address using Regular Expression. **(SUMMER 2023, 7 Marks OR; WINTER 2023, 7 Marks - includes mobile number validation; WINTER 2025, 7 Marks)**

Other Important Questions:

1. JavaScript Concepts:

- **Q.** How can you use function as an argument in JavaScript? Explain with suitable example. **(WINTER 2025, 7 Marks OR)**
- **Q.** Discuss the difference between == and === operators in JavaScript with example. **(SUMMER 2026, 3 Marks)**
- **Q.** What is an event handler in JavaScript? Explain with example. **(SUMMER 2026, 3 Marks OR)**
- **Q.** Write a short note on error handling in JavaScript. **(SUMMER 2024, 3 Marks)**
- **Q.** Discuss callback in JavaScript with the help of appropriate example. **(SUMMER 2024, 4 Marks)**
- **Q.** List some advantages of JavaScript. **(WINTER 2022, 3 Marks OR)**

2. JSON:

- **Q.** What is JSON? Explain different methods used to convert JavaScript to JSON and vice versa through example. **(WINTER 2023, 4 Marks)**
- **Q.** Enlist and explain valid data types in JSON with syntax. **(WINTER 2023, 4 Marks OR)**
- **Q.** Briefly discuss JSON. **(SUMMER 2024, 3 Marks OR)**

3. Event Handling Programs:

- **Q.** Write a JavaScript that handles following mouse event. If the mouse is over heading, change font color to “green” and if the mouse goes out of the heading change it to “red”. **(SUMMER 2023, 7 Marks)**
- **Q.** Explain any two event handlers for text box & text area in JavaScript with Example. **(SUMMER 2023, 4 Marks)**
- **Q.** Explain any two event handlers for button in JavaScript with Example. **(SUMMER 2023, 4 Marks OR)**

4. Windows and Dynamic Elements (Programs):

- **Q.** Write a JavaScript program that dynamically creates a button element and appends it to an existing div element on the webpage. When clicked, the button should display an alert with a custom message. **(SUMMER 2026, 7 Marks)**
- **Q.** Write a JavaScript program that prompts the user to enter a URL and then opens the provided URL in a new browser window. **(SUMMER 2026, 4 Marks)**
- **Q.** Put three buttons “OPEN NEW WINDOW”, “CLOSE CHILD WINDOW”, “CLOSE MAIN WINDOW” in main HTML page. On click of first button, execute some JavaScript code that will open one child

window. Clicking on second button, child window will close and clicking on third button, main html page will close. **(SUMMER 2023, 7 Marks)**

- **Q.** Create a webpage containing one button. Clicking on this button, change the size of the window & position. **(SUMMER 2023, 3 Marks OR)**

5. JavaScript Programs (Numerical):

- **Q.** Define a JavaScript function to check whether a number given by user is a Palindrome number or not. **(WINTER 2025, 4 Marks OR)**
- **Q.** Develop a webpage that displays a countdown timer starting from 60 seconds and updates every second. Use JavaScript to implement this functionality, and ensure the timer stops when it reaches zero. Additionally, display a message when the timer finishes, indicating the end of the countdown. **(SUMMER 2026, 4 Marks OR)**
- **Q.** Write a JavaScript to find whether entered number by user is prime or not. **(SUMMER 2024, 7 Marks OR)**
- **Q.** Create an HTML and JavaScript program which accepts N as input and print first N odd numbers. **(WINTER 2022, 4 Marks OR)**
- **Q.** Write an HTML and JavaScript program that accepts N as input and print all prime numbers. (e.g. input N=10 then answer is 3,5,7). **(WINTER 2023, 7 Marks)**

6. Form Validation Programs:

- **Q.** Design Student registration form including rollno, name, password and mobile number using HTML. Also write JavaScript to validate following: All Fields are compulsory; Password length should be 6 to 8 characters long; Mobile number must be of 10 digits only. **(SUMMER 2024, 7 Marks)**
- **Q.** Design a login form using HTML & JavaScript with following validations using Regular Expression on username and password fields: 1. Username and Password should not be both blank 2. Username should not start with digit, _, @ or # 3. Password length must be 8 to 16 characters. **(WINTER 2022, 7 Marks)**
- **Q.** Write HTML and JavaScript code to validate the username and password: 1. Both fields should not be blank. 2. Username contains only number. 3. Minimum password length 8. 4. Password contains at least one capital letter, special character and number. **(WINTER 2023, 7 Marks OR)**

Chapter 4: Server Side Programming with PHP

Repeated Questions:

1. Client-Side vs Server-Side Scripting:

- **Q.** Differentiate between Client Side Scripting and Server Side Scripting. **(WINTER 2022; WINTER 2023, 3 Marks; SUMMER 2024, 4 Marks; WINTER 2025, 3 Marks)**

2. PHP Arrays:

- **Q.** Explain types of arrays available in PHP with suitable example. / Explain index and associative arrays in PHP with example. / Explain what an associative array is in PHP. How does it differ from a regular array? Provide an example… [Data truncated in source – refer to the original question paper] **(WINTER 2023, 4 Marks; SUMMER 2024, 7 Marks; WINTER 2025, 4 Marks; SUMMER 2026, 4 Marks OR)**

3. Sessions and Cookies:

- **Q.** What is session? Explain with suitable example. / Explain how session variables are set, accessed, and unset in PHP. Provide examples including each operation. **(SUMMER 2023, 3 Marks OR; WINTER 2025, 4 Marks OR; SUMMER 2026, 7 Marks OR)**
- **Q.** What is the use of cookie in web programming? Write a code to set and display cookies in PHP. **(SUMMER 2023, 3 Marks; WINTER 2023, 3 Marks OR)**

4. GET and POST:

- **Q.** Write difference between POST and GET methods. **(SUMMER 2023, 3 Marks; SUMMER 2024, 3 Marks)**

5. File Handling:

- **Q.** Write a PHP Script to display content of .txt file and display total number of words. **(SUMMER 2023, 4 Marks; WINTER 2023, 4 Marks OR)**

Other Important Questions:

1. PHP Basics:

- **Q.** State and explain the syntax for variable declaration in PHP. Also enlist the rules to be followed for naming a variable in PHP. **(WINTER 2025, 3 Marks OR)**
- **Q.** Explain how a constant variable can be created in PHP with example. **(SUMMER 2026, 3 Marks OR)**
- **Q.** Explain any four superglobal variables in PHP. **(SUMMER 2026, 4 Marks)**
- **Q.** Explain types of loops in PHP. **(SUMMER 2024, 4 Marks)**
- **Q.** Explain the use of following arrays in PHP: 1) $_REQUEST[] 2) $_SERVER[]. **(WINTER 2022, 4 Marks)**
- **Q.** What PHP can do with header() function? **(WINTER 2022, 3 Marks OR)**

2. Forms and File Upload:

- **Q.** Create HTML form that will allow a candidate to enter his/her name and browse his/her photo and signature. Also write PHP code to upload Photo into “Candidate_Photos” and Signature into “Candidate_Signatures” folders on the server. **(WINTER 2025, 7 Marks)**
- **Q.** Create HTML form that can accept Passenger details such as Name, Mobile, Email, Address, Gender, Photo etc. Also write PHP code to display the accepted details. **(WINTER 2025, 7 Marks OR)**
- **Q.** Explain the process of validating the file type for a file uploaded by user in PHP, ensuring that it is a .pdf file. Include an example code snippet demonstrating how to implement this validation. **(SUMMER 2026, 7 Marks)**

3. File Handling:

- **Q.** Create a PHP script that reads and displays the contents of a text file named "sample.txt". Assume that the file is located in the same directory as the PHP script. **(SUMMER 2026, 3 Marks)**
- **Q.** Write a short note on file handling in PHP. **(SUMMER 2024, 3 Marks)**
- **Q.** Write a PHP script to open, close, read and write into a file. **(WINTER 2022, 7 Marks OR)**

4. State Management:

- **Q.** What is query string? How is it transmitted to the server with the GET and POST methods? **(WINTER 2022, 7 Marks)**
- **Q.** Explain the concept of state management using query string in PHP. **(SUMMER 2023, 4 Marks OR)**
- **Q.** Briefly discuss sessions and cookies in PHP using appropriate example. **(SUMMER 2024, 7 Marks OR)**

Chapter 6: Database Programming with PHP and MySQL

Repeated Questions:

1. Prepared Statements:

- **Q.** Write PHP code that demonstrates the usage of Prepared Statement. / Explain the purpose of prepared statements in PHP when working with MySQL databases. Provide an example of using prepared statements to execute a query. / Write a PHP script to insert user details (firstname, lastname, email) in MySQL using prepared statement. **(WINTER 2023, 7 Marks OR; WINTER 2025, 7 Marks OR; SUMMER 2026, 7 Marks)**

2. Database Connectivity:

- **Q.** Explain database connectivity in PHP with example. / Discuss steps to connect database using PHP. Also, discuss any two database operations using proper example. / Explain PHP? How can you connect to database in PHP? Show the simple database operation using PHP with proper example. **(WINTER 2022, 4 Marks; WINTER 2022, 7 Marks OR; SUMMER 2024, 7 Marks)**

3. Database Web Application (Insert, Update, Delete):

- **Q.** Develop a web application code using PHP, HTML and MySQL for Students that stores enrolment no., name, semester, gender, qualification, etc. in database. Create proper GUI including buttons that run separate .php file for each database operation like insert, update, delete etc. / Develop a web application code using PHP, HTML and MySQL for Students that stores student's enrolment no., name, semester, gender, qualification, etc. in database. Create proper GUI including buttons that run separate .php file for each database operation like insert, update, delete etc. **(WINTER 2022, 7 Marks OR; SUMMER 2023, 7 Marks OR)**

Other Important Questions:

1. Database Programs:

- **Q.** Write PHP code to store Passenger Registration details such as Name, Email, Mobile, Gender, Address and Photo_URL into a MySQL table Passenger_info. Also implement necessary validations. **(WINTER 2025, 7 Marks)**
- **Q.** Write HTML and PHP program to read and store employee information such as e_id, e_name, e_dept, e_exp and e_salary from employee table. Make a search module to search a record from the database based on e_dept and display the result in tabular format. **(SUMMER 2023, 7 Marks)**
- **Q.** Write a web application code using PHP, HTML and MySQL for Students that stores EnrollmentNo, Name, College, Branch, Year etc. in database. Make separate PHP file for each database operation like insert, update and delete operation. **(SUMMER 2023, 7 Marks OR)**

Chapter 7: Advanced Web Programming Concepts

Repeated Questions:

1. Synchronous and Asynchronous Programming:

- **Q.** Differentiate between Synchronous and Asynchronous Web Programming. / Discuss the difference between synchronous and asynchronous web programming approaches (Provide at-least three points). **(WINTER 2022, 3 Marks; SUMMER 2023, 3 Marks; SUMMER 2024, 4 Marks OR; WINTER 2025, 3 Marks OR; SUMMER 2026, 3 Marks)**

2. AJAX:

- **Q.** What is AJAX? State the advantages of using AJAX. / Write a note on AJAX. / Write AJAX code to demonstrate the use AJAX request-response mechanism. / Write AJAX code that creates a simple XMLHttpRequest to retrieve data from a TXT file. / Explain the concept of AJAX web-application model. **(SUMMER 2023, 7 Marks; WINTER 2023, 7 Marks; WINTER 2023 OR; SUMMER 2024, 4 Marks; WINTER 2025, 3 Marks)**

3. jQuery:

- **Q.** What is JQuery? Explain the steps to use JQuery in a webpage. / Explain text(), html(), val(), attr() methods related to DOM manipulation using JQuery with example. / Explain jQuery load(), get() and post() methods with its syntax. / What is the use of jQuery? Explain through its syntax. **(SUMMER 2023, 7 Marks OR; WINTER 2023, 7 Marks OR; WINTER 2025, 4 Marks OR; SUMMER 2026, 7 Marks)**

4. Web Services:

- **Q.** What is a web service? Write advantages and disadvantages of web services. / Write a note on Web services. / What are web services? Explain role of SOAP in Web services. **(WINTER 2022, 3 Marks OR; SUMMER 2023, 7 Marks OR; WINTER 2023, 7 Marks OR; SUMMER 2024, 3 Marks)**

Other Important Questions:

1. APIs:

- **Q.** Develop API using PHP to display a student's record whose Enrollment Number is passed as an argument. Consider Student_info table of College database in MySQL. Assume necessary fields. **(WINTER 2025, 7 Marks)**
- **Q.** Develop a script that prompts the user to input an ISBN number of a Book. Upon submission, the script sends the ISBN number to a PHP script hosted on the server. The PHP script retrieves book details such as ISBN, title, author information, and price from a MySQL database. Convert this data into JSON format and send it back to the user as a response. **(SUMMER 2026, 7 Marks OR)**
- **Q.** What are APIs? How to use them? **(SUMMER 2023, 3 Marks OR)**
- **Q.** What is an API service? Write advantages and disadvantages of API services. **(WINTER 2023, 7 Marks OR)**

2. Web Application Models:

- **Q.** Explain the concept of classic web-application model. **(WINTER 2023, 3 Marks)**

Uncategorised Questions

Repeated Questions:

None identified.

Other Important Questions:

1. HTML Basics and Acronyms:

- **Q.** Write a difference between following: a) HTML and XHTML. **(WINTER 2022)**
- **Q.** State full form of following acronym: (1) DOM (2) XSL (3) DTD (4) HTTP (5) PHP (6) XML. **(WINTER 2022)**

2. XML and XSL:

- **Q.** Write a JavaScript to read data from XML File and print it in tabular manner. **(WINTER 2022, 7 Marks)**
- **Q.** Explain in brief about XSL and XSLT with example. **(WINTER 2022 OR)**
- **Q.** Explain Following XSL: i) Value-of ii) Sort. **(WINTER 2022, 3 Marks)**

3. FTP:

- **Q.** What is FTP? Demonstrate functionality of various FTP commands in brief. **(WINTER 2022, 4 Marks OR)**

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