

Department of Computer Science and Engineering
Central Institute of Technology Kokrajhar

End Semester Examination
B. Tech

Course Title: **Web and Internet Technology**
Session: **July-Dec, 2024**

Course Code: **UCSE514**
Full Marks: **100**

Time: **3:00 hrs**

Figure in the margin indicates full marks.

Question 1 is compulsory. Answer any three questions from rest!

- 1 [A] Fill in the blanks (2 x 10) 20
- The <a> tag defines a(n) _____ in HTML, which can link to another document or resource.
 - To create a line break in HTML without using
, you can use the _____ attribute in the <div> or <p> tag.
 - The property used to adjust the space between the border and the content in CSS is called _____.
 - To hide an element in CSS, you set the visibility property to _____ or use display: _____.
 - In JavaScript, to convert a string to an integer, you can use the function _____().
 - The method used to add a new element to the end of an array in JavaScript is _____.
 - In SQL, to retrieve data from two tables, you use the _____ keyword.
 - The SQL command to add a new record to a table is _____.
 - In PHP, to start a session, you would use the function _____().
 - The PHP function to connect to a MySQL database server is _____.
- [B] Write short answer questions (2 x 10) 20
- What is the difference between <div> and ?
 - Explain the purpose of the doctype declaration in an HTML document.
 - What is the CSS box model?
 - Describe what flexbox is used for in CSS.
 - What is the difference between == and === in JavaScript?
 - Explain what an event listener does in JavaScript.
 - What does SQL's JOIN operation do?
 - Describe the purpose of the WHERE clause in an SQL SELECT statement.
 - What does echo do in PHP?
 - How do you escape special characters in PHP string literals?
- 2 a. Describe the MVC (Model-View-Controller) pattern in PHP. Explain how it promotes separation of concerns, and illustrate with an example how you would structure a small web application using MVC. 10 + 10 = 20
- b. Explain session handling in PHP. How does PHP manage sessions? Write a simple PHP script that starts a session, sets a session

variable, and then retrieves it on another page load. Discuss security considerations with PHP sessions.

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| 3 | a. Explain the features of PHP?
b. Explain the Object Orientation concept in PHP. | 10 + 10 = 20 |
| 4 | a. What are the features of Laravel?
b. Explain any ten applications that you can build with Laravel. | 10 + 10 = 20 |
| 5 | a. Create a function counter() that returns another function which increments and returns a counter variable. The counter should start at 0 and increment each time the returned function is called. Explain how closures are used in this context to achieve this functionality.
b. What are the differences among variable declaration as const, var, let and static in JavaScript with example. | 10 + 10 = 20 |
| 6 | a. Define what makes an API RESTful. Describe how you would design a REST API for a simple task management system, including endpoints for CRUD operations on tasks.
b. Discuss the security practices that should be implemented in both front-end and back-end development to prevent common vulnerabilities like XSS, CSRF, and SQL Injection. How does the implementation differ between the two? | 10 + 10 = 20 |
| 7 | Write short notes (any four)
a. Document Object Model (DOM)
b. Firewall and Proxy Server
c. Secure Communication Protocol (HTTPS)
d. Operators in JavaScript
e. Apache and Nginx Server
f. NoSQL Database | 5 x 4 = 20 |