

Question Paper

Exam Date & Time: 27-Jun-2024 (02:30 PM - 05:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

OPEN ELECTIVE-DESIGN AND DEVELOPMENT OF WEB APPLICATIONS [ICT4302]

Marks: 50

Duration: 180 mins.

A

Answer all the questions.

Instructions to Candidates: Answer ALL questions Missing data may be suitably assumed

- 1) Describe the sequence of steps that occur when you type a web address into a web browser's address bar and press Enter. Illustrate with a diagram. (4)
 - A)
 - B) Reveal the rationale behind the nomenclature of HTML and explore how each term reflects its purpose and functionality. (4)
 - C) Are HTML tags case-insensitive? Where does < title> tag render on a webpage? (2)
- 2) What are definition lists? Give an example of HTML code with a definition list with three items and illustrate the output of the code. (4)
 - A)
 - B) Discuss the various methods by which CSS styles can be integrated into an HTML document. Provide detailed explanations of each method. (4)
 - C) Discuss the rationale behind using em units instead of pixels for specifying font sizes in web design. (2)
- 3) What is the output of the code in Figure 3A? Elaborate on how the DATE command is populated? (4)
 - A)

```

<!DOCTYPE html>
<html>
<body>
<?php
$t = date("H");
echo "<p>The hour (of the server) is " . $t;
echo ", and will give the following message:</p>";
if ($t < "10") {
    echo "Have a good morning!";
} elseif ($t < "20") {
    echo "Have a good day!";
} else { echo "Have a good night!"; }
?>
</body>
</html>

```

Figure 3A

- B) Write HTML code for rendering the components in Figure 3B with similar formatting characteristics. (4)

Name:

Email:

Message:

Figure 3B

- C) What are the key differences between server-side scripting and client-side scripting in web development? What type of language is PHP? (2)
- 4) Discuss how the myFunction() JavaScript function in Figure 4A validates user input in the provided HTML code. Describe the conditions used to determine whether the input is valid or not, and how the function alters the content of the <p> element with the id demo based on the validation result. (4)
- A)

```

<!DOCTYPE html>
<html>
<body>
<h2>JavaScript Validation</h2>
<p>Please input a number between 1 and 10:</p>
<input id="numb" type="text">
<button type="button" onclick="myFunction()">Submit</button>
<p id="demo"></p>

<script>
function myFunction() {
var x = document.getElementById("numb").value;
var text;

    if (isNaN(x) || x < 1 || x > 10) text = "Input not valid";
    else text = "Input OK";

    document.getElementById("demo").innerHTML = text;
}
</script>
</body>
</html>

```

Figure 4A

- B) Discuss the potential drawbacks of relying solely on client-side validation, as demonstrated in the provided HTML code. What are some scenarios where server-side validation would be necessary, and how could it be implemented alongside client-side validation to enhance overall security and user experience? (4)
- C) What does PHP stand for? Where is this code executed: on the client or server? (2)
- 5) Discuss the purpose of each of the following PHP functions used in the code snippet: `strrev()`, `str_repeat()`, and `strtoupper()`. Provide an example demonstrating the output of each function when applied to the given input strings. (4)
- A)
- B) Write PHP code to add a new element, "Dot Matrix", to the `$paper` array (Figure 5B), and then display the updated array. (4)

```

<?php
$paper[0] = "Copier";
$paper[1] = "Inkjet";
$paper[2] = "Laser";
$paper[3] = "Photo";
?>

```

Figure 5B

- C) What is type conversion in a programming language? What does `settype($count, 'int');` do in PHP code? (2)

-----End-----