University of Kelaniya – Sri Lanka
Centre for Distance & Continuing Education
Bachelor of Science (General) External
Second year second semester examination - 2019
2024 February
Faculty of Science
COST 27573 - Web Development

No. of Questions: **Five(05)**   No. of Pages: **Four(04)**   Time: **Two and half (02 ½) hrs**
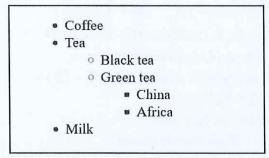
Answer **ALL** questions.

Question 01

(a) (i) Define the term *Internet*.   (04 marks)

(ii) List five (05) components of a data communication system and describe any three (03) of them.   (11 marks)

(b) (i) What is the difference between half-duplex and full-duplex transmission modes?   (10 marks)

(ii) Briefly describe the advantages of a multipoint connection over a point-to-point connection.   (08 marks)

(c) (i) What is a protocol?   (06 marks)

(ii) Briefly describe the three key elements of a protocol.   (15 marks)

(iii) Describe briefly the functionalities of the following protocols.   (16 marks)
        a) Transmission Control Protocol (TCP)
        b) Internet Message Access Protocol (IMAP)
        c) Internet Control Message Protocol (ICMP)
        d) User Datagram Protocol (UDP)

(d) (i) What is the difference between *Intranet* and *Extranet*?   (10 marks)

(ii) State the purpose of using a *firewall*.   (10 marks)

(iii) Briefly describe the client server architecture.   (10 marks)

Question 02

(a) (i) What is the role of Markup tags?   (10 marks)

(ii) What do you mean by *attributes* in HTML?   (10 marks)

(b) (i) What is the purpose of using **cellpadding** and **cellspacing** attributes in HTML tables?   (10 marks)

(ii) Briefly describe the functionalities of each of the following HTML tags.   (20 marks)

a) <pre>… </pre>
b) ~~…~~
c) <abbr>…</abbr>
d) <caption>… </caption>
e) <sub>…</sub>

(c) Create the following list using HTML. Use appropriate styles.   (25 marks)

- Coffee
- Tea
  - Black tea
  - Green tea
    - China
    - Africa
- Milk

(d) Write an HTML code to create the following form.   (25 marks)
     i. "Course" drop down menu has four options: Diploma in Accounts, Diploma in Software Engineering, Diploma in Marketing, and Diploma in Artificial Intelligence. "Diploma in Accounts" is the default value.
     ii. Use appropriate alignments and formatting.

Course Registration

First Name:
Last Name:
Contact Number:
NIC:

Type your address

Address:

Sex: ○ Male ○ Female
Course: Diploma In Accounts   ⌄
Email:
[REGISTER] [CLEAR]

Question 03

(a) (i) What is the purpose of using Cascading Style Sheet (CSS) ?   (05 marks)

   (ii) List three ways of inserting a CSS to a web page using suitable examples. What is the cascading order of these three types of CSS?   (20 marks)

   (iii) Describe the difference between **id selector** and **class selector**.   (10 marks)

b) (i) Compare and contrast the following CSS rules.   (10 marks)
     display: none
     visibility: hidden

   (ii) With the aid of a suitable example briefly, describe the structure of CSS box model.   (10 marks)

   (iii) What is meant by image sprite in CSS?   (05 marks)

(c) (i) What is the purpose of using pseudo class in CSS?   (10 marks)

(ii) By using appropriate example, briefly describe the usage of each of the   (10 marks)
following
    pseudo classes.
        a) : first-child
        b) : lang
        c) : hover
        d) : focus

(d) Write the required external CSS rules to accomplish each of the following tasks.   (20 marks)

  (i) Set the image *fruits.jpg* as the background image of the webpage. The
      background image should be repeated vertically and keep fixed.

  (ii) Using shorthand property set the following styles only for the left border.
      color of the border: red
      width of the border :medium
      style of the border: double

  (iii) Set the font of all the levels of heading and paragraph to "Times New Roman".

  (iv) Set the text color of all heading to #ff4d4d and the background color of all the
      headings to #6666ff.

Question 04

(a) (i) What is meant by a Document Object Model (DOM)?   (05 marks)

  (ii) Draw the parse tree for the given HTML document.   (20 marks)

```
<html>
<head>
        <title>Fruits World</title>
</head>
<body bgcolor="green">
        <h1 align ="center"> Welcome to Fruits World </h1>
        <img src="fruits. png"  width="100px"  height="100px">
        <p > Choose your favorite color  </p>
            <ul>
            <li>Apples</li>
            <li>Grapes</li>
            <li>Oranges</li>
            </ul>
</body>
</html>
```

(b) (i) "JavaScript is an interpreted language". Briefly explain the given statement.   (05 marks)

  (ii) Briefly describe the following operations, which can be performed using   (15 marks)
    JavaScript.
        a) Cookies
        b) Validate Form
        c) Browser Detection

(c) (i) What is the main difference between the **break** statement and the **continue**   (10 marks)
    statement used in loops.
  (ii) Differentiate the three types of popup boxes used in JavaScript.   (15 marks)

(d) Consider the following code.

```
<script type="text/javascript">
for ( i=10; i<20; i++)
document.write(i);
</script>
```

  (i) What is the output of the above code? (10 marks)

(ii) Modify the code to print the above number sequence in backwards. (10 marks)

(iii) Modify the code to print the sum of the above number sequence. (10 marks)

Question 05

(a) (i) "PHP is a Loosely Typed Language". Briefly explain this statement. (10 marks)

  (ii) What is the main difference between the include() and require() used as Server Side Include (SSI) functions in PHP. (10 marks)

(b) (i) State three rules for naming a PHP variable. (15 marks)

  (ii) Briefly explain $_GET and $_POST method in PHP. (10 marks)

(c) Write a PHP script to add the following restriction to be checked, when uploading a file to the server in PHP. (25 marks)
- User may only upload GIF and JPEG.
- File size of the uploading file should be less than 2 Mb.

(d) (i) Write a complete PHP code segment to create a database called "Employees". (10 marks)

  (ii) Write a PHP code segment to create a table called 'Employee_details' within (20 marks)
the

created database in part (d) (i) according to the following specifications.
- The table consists of four columns (Employee_Id, Employee_Name, Age,Contact_Number)
- Define appropriate data types for each column.
- Set the Employee_Id field as the primary key.

-------------------------------------END OF QUESTION PAPER--------------------------------