

**The Open University of Sri Lanka**  
**Faculty of Natural Sciences**  
**B.Sc/ B. Ed Degree Programme**



<b>Department</b>	: Computer Science
<b>Level</b>	: Level 05
<b>Name of the Examination</b>	: Final Examination
<b>Course Title and - Code</b>	: Web Technology – CSU5302
<b>Academic Year</b>	: 2020/2021
<b>Date</b>	: 19.12.2021
<b>Time</b>	: 09.30 a.m. – 11.30 a.m.
<b>Duration</b>	: 02 Hours

**General Instructions**

1. Read all instructions carefully before answering the questions.
  2. This question paper consists of **SIX (06)** questions in **03** pages.
  3. Answer **FOUR (04)** questions only. All questions carry equal marks.
  4. Answer for each question should commence from a new page.
  5. Draw fully labeled diagrams where necessary.
  6. Involvement in any activity that is considered as an exam offense will lead to punishment.
  7. Use blue or black ink to answer the questions.
  8. Clearly state your index number in your answer script.
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**Q1)**

- a)
  - i. Explain what packet switching is, using an appropriate diagram.
  - ii. Give three examples of early day networks that used packet switching.
- b) Explain the problems of using different protocols within a same network.
- c) What is GOPHER?
- d) List five advantages of client server architecture.
- e) Explain two-tier and three-tier client-server architecture, with appropriate diagrams.
- f) Name the seven layers of the ISO/OSI Model.

**Q2)**

- a) Explain the file transfer protocol using a suitable diagram.
- b) List the two file transfer modes in the file transfer protocol.
- c) List three types of email protocols, including two outgoing and one incoming protocol, and briefly explain them.
- d) Draw a diagram to demonstrate how the basic email sending process works with the above protocols (mentioned in the answer (c))
- e) What is TELNET? Explain the basic connection flow of telnet using a diagram.

**Q3)**

- a) Explain the usages of “Markup Language”, “Scripting Language” and “Programming Language”.
- b) Give two examples for each Markup, Scripting, and Programming language.
- c) Explain the basic HTML tags below and their usage.
  - a. Heading Tags
  - b. Paragraph tag
  - c. Line Break Tag
- d) List five image tags that we can use in HTML.
- e) Explain three types of HTML attributes.
- f) Create a table with two rows and three columns using HTML table tags and name the column headers as First Name, Last Name and Age (Include some sample data in the table rows).

**Q4)**

- a) What is the ECMA-262 Specification?
- b) Briefly explain four advantages of using JavaScript.
- c) Discuss the limitations of JavaScript.
- d) Give an example of how to include JavaScript in an HTML file.
- e) Write a JavaScript to create an object called as person and assign the name, age, city, and weight to that object.
- f) Write a JavaScript function to return the modulus of the given two numbers.

**Q5)**

- a) What are the two types of connections that can be used to connect to a Database in PHP 5 and later versions?
- b) What are the four parameters that need to be set, when connecting to a Database in PHP?
- c) Write a sample PHP code to connect to a database.
- d) Write a sample PHP code to insert data into a customer table in the Database which has firstname, lastname, and email as columns (hint: you need to write down a simple insert query).

Q6)

- a) Draw the tree structure to the XML code below.

```
<?xml version="1.0" encoding="UTF-8"?>
<bookstore>
  <book category="cooking">
    <title lang="en">Everyday Italian</title>
    <author>Giada De Laurentiis</author>
    <year>2005</year>
    <price>30.00</price>
  </book>
  <book category="children">
    <title lang="en">Harry Potter</title>
    <author>J K. Rowling</author>
    <year>2005</year>
    <price>29.99</price>
  </book>
  <book category="web">
    <title lang="en">Learning XML</title>
    <author>Erik T. Ray</author>
    <year>2003</year>
    <price>39.95</price>
  </book>
</bookstore>
```

- b) List the four components of web services in long-form, not in abbreviations.
- c) Discuss three benefits of web services.
- d) What is meant by WSDL?
- e) Describe the four major elements of WSDL.

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