

**UNIVERSITY OF RUHUNA**  
**BACHELOR OF SCIENCE (GENERAL) DEGREE LEVEL I (SEMESTER I)**  
**EXAMINATION – AUGUST 2017**

COURSE UNIT: COM 113α (Internet Services and Web Development)

TIME: 1 hour

**Answer two questions only.**

1.

a.

- i. Briefly explain the role of TCP/IP in working of the Internet.
- ii. Write the purpose of Domain Name System (DNS).
- iii. Write two advantages of client server architecture.
- iv. Write three internet services that can be directly used for education purposes by briefly explaining how each service could be used for education purpose.

b.

The web based search engines like Google, list down search results according to the user entered keywords. Therefore, for a better search optimization, web developers need to include keywords in their web pages.

- i. What is the appropriate method to include such keywords in a web page? Give a relevant HTML code fragment to include such information in a web page.
- ii. Write the suitable HTML tags for the following tasks.
  - To give the information “This page explains how to define different HTML tags”.
  - To mention the author of the document as M.P. Fernando.
  - To refresh the webpage automatically after every 30 seconds.
- iii. Write a suitable HTML code segment to send an email to [abc@gmail.com](mailto:abc@gmail.com) with the message “*The Sports meet is cancelled due to heavy rain*” under the subject “*Sports Day is Cancelled*”.

c. The management of a software company has decided to collect updated details of employees using a simple Internet based application. They plan to collect details such as **employee ID, name, department, gender** and **different programming skills** of each employee in the organization. The company uses Java, Python, PHP and C# as programming languages in their system development projects and each employee is skilled in more than one programming language.

- i. What is the most suitable HTML element, you can use to get such details from the employees?
- ii. Write the most appropriate HTML component that you can use to obtain details of employees’ programming skills within the HTML element you wrote in c.(i) above. Justify your answer.
- iii. Write the most appropriate method to send the data collected from the employees to the database. Justify your answer.
- iv. Write an appropriate HTML code segment to get gender details of employees.

2.

a. Draw the output generated by the following HTML code fragment.

```
<table border="1">
  <tr>
    <th rowspan="2">Item #</th>
    <th>Item Description</th>
    <th>Price</th>
  </tr>
  <tr>
    <th>Expense Type</th>
    <th>Expense</th>
  </tr>
  <tr>
    <td rowspan="2">1</td>
    <td>HP Laptop</td>
    <td>Rs. 40000.00</td>
  </tr>
  <tr>
    <td>Shipping handling</td>
    <td>Rs. 8000.00</td>
  </tr>
  <tr>
    <td rowspan="2">2</td>
    <td>Windows 10 OS</td>
    <td>Rs. 25000.00</td>
  </tr>
  <tr>
    <td>Installation</td>
    <td>Rs. 5000.00</td>
  </tr>
</table>
```

b. Explain Cell spacing and Cell padding properties of a table using a suitable figure.

c. Write the required external CSS rules to accomplish following tasks.

- i. Set the left and right margins to 150px and top and bottom margins to 100px of a paragraph with the id *para1* using one CSS property.
- ii. Set the color of a visited link of class *a1* into red.
- iii. Set the color of all italic words in the first paragraph of a document into blue color.

3.

a.

- i. Write two limitations of Java Script.
- ii. Write a single line Java Script code to display the message "Hello All" using an alert box.
- iii. Write three examples for HTML events.

b. Write the expected output of the following Java Script function.

```
<script>
  var a = 1, b = 2, c = 3;
  function outer() {
    var a=3, d=1, e=4;
    b=a*c;
    document.write("b value "+b);
    document.write("<br />");

    function inner() {
      var e=3, f=2;
      var c=e*f;
      document.write("c value "+c);
    }

    inner();
  }

  outer();
</script>
```

c. Write a JavaScript function to calculate the difference of square values of two numbers passed as function arguments and to display the absolute value of the difference in an alert box.

(Hint: If the numbers are 2 and 3. Then difference is  $4-9 = |-5| = 5$ )

\*\*\*\*\*End\*\*\*\*\*