Vavuniya Campus of the University of Jaffna

First Examination in Information Technology - 2018

First Semester - September/October 2019

IT1144 Fundamentals of Web Programming (Theory)

Answer Four Questions Only

Time Allowed : Two hours

1. (a) Define what is meant by Internet.   [10%]

   (b) Briefly describe the communication process between a client and a server.   [15%]

   (c) Write short description for each of the following with regard to **web technologies** with the aid of a diagram or example:

      i. Web page

      ii. Website

      iii. Hyperlink

      iv. IP address

      v. URL   [25%]

   (d) State the purpose of using Domain Name System (DNS).   [15%]

   (e) State the purpose of each of the following web development technologies:

      i. JavaScript

      ii. PHP   [15%]

   (f) Explain five services provided by Internet.   [20%]

2. (a) State the purpose for each of the following used in the Internet world:

   i. Web browser

   ii. Web server [10%]

   (b) Draw the general architecture diagram of a web browser. [20%]

   (c) Briefly describe each of the following with regard to a web browser:

   i. User Interface

   ii. Browser Engine

   iii. Rendering Engine [15%]

   (d) Explain steps involved in the rendering process of a web page. [20%]

   (e) Compare and contrast between the architecture of **Chrome** and **Firefox** browsers.

   [15%]

   (f) Suppose you are required to develop a website for an organization and host it in a server. Describe the steps required to be followed to host the website. [20%]

3. (a) Describe what is meant by **Hypertext Mark-up Language (HTML)** and its usage. [10%]

   (b) Write down the purpose for each of the following HTML Tags:

   i. <DOCTYPE>

   ii. <HTML>

   iii. <HEAD>

   iv. <BODY> [20%]

   (c) State what is meant by an **empty element** in HTML. [10%]

   (d) Explain various uses of **Meta** tag with the aid of examples. [20%]

[This question is continued on the next page]

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(e) Write HTML code block for each of the following tasks:

    i. Print two lists with any information you want. One list should be an ordered list, and the other list should be an unordered list. [20%]

    ii. Print an h1 level heading followed by a horizontal line with the width 100%. Below the horizontal line, print a paragraph relating to the text in the heading. [20%]

4. (a) State what is meant by attributes in HTML and describe the components of it with the aid of examples. [20%]

  (b) Identify the suitable attribute to attain each of the following tasks:

    i. To uniquely identify any element within an html page.

    ii. To display a text as tooltip when cursor comes over the element or while the element is loading.

    iii. To associate an element with a style sheet.

    iv. To specify Cascading Style Sheet (CSS) rules within the element [20%]

  (c) Identify the corresponding *tag* or *attribute* for each of the situations given below:

    i. To set the colour behind an HTML element.

    ii. To set the direction of the text.

    iii. To type a paragraph with mono-spaced font.

    iv. To remove a wrong word and insert the correct word in a paragraph. [20%]

  (d) You are required to create a web page to collect the details *(title, full name, registration number, address, level, and course units)* of level 1 students for the End of Course Examination application. Write down the HTML code for the above scenario.

    Hint: Assume that the students may select the subjects they would like to apply for. [40%]

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5. (a) Describe the purpose of using Cascading Style Sheets (CSS) in web page development. [10%]

(b) Compare the advantages of CSS with other webpage development tools. [10%]

(c) Describe each of the following types of selectors with the aid of examples:

  i. Type selector

  ii. Universal selector

  iii. Descendent selector

  iv. Child selector

  v. Attribute selector [30%]

(d) Explain the use of the following types of CSS syntax used in HTML.

  i. Embedded CSS

  ii. Inline CSS

  iii. External CSS

  iv. Imported CSS [20%]

(e) Write the CSS code block to accomplish each of the following tasks:

  i. Change the colour of all <p> elements to "red".

  ii. Change the colour of all <p> and <h1> elements, to "blue". Group the selectors to minimize code.

  iii. Add an external style sheet with the URL "style.css".

  iv. Set background colour of the page as "linen" using an inline style.

  v. Set a dotted border for a paragraph with "4px" width.

  vi. Set the font family for the page to "Courier New", and the font family for <h1> to "Verdana". [30%]

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