2920/304
INTERNET BASED PROGRAMMING
July 2017
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

MODULE III

INTERNET BASED PROGRAMMING

3 hours

INSTRUCTIONS TO CANDIDATES

*This paper consists of **EIGHT** questions.*
*Answer any **FIVE** of the **EIGHT** questions in the answer booklet provided.*
Candidates should answer the questions in English.

This paper consists of 7 printed pages.

Candidates should check the question paper to ascertain that all the
pages are printed as indicated and that no questions are missing.

Turn over

1. (a) Explain a circumstance under which each of the following tags could be used in HTML.

 (i) <pre> (2 marks)

 (ii) <tfoot> (2 marks)

 (iii) <tbody> (2 marks)

 (b) Agnes opted to use a web based authoring tool to create a web site. Explain **three** benefits that she would gain from this approach. (6 marks)

 (c) Table1 shows details as displayed on a web browser.

TABLE TITLE

Heading1	Heading2	Heading3
100	200	300
	400	500
600		

Table 1

The following are the HTML table attributes used:
- borders of 4 pixels width.
- height and width covering 100% of the screen.
- all cells with numeric values have colour whose code value is "#FF00FF".
- The top three rows of height equals to 25% of the screen space

Write the HTML code that would display the table on the web browser. (8 marks)

2. (a) The following is a list of web based applications. (2 marks)

Jigsaw, Klone, Ms WindowsXP, Abyss web server, Zeus web server, CorelDraw, Apache Tomcat, Visual Basic

Identify those that are used to host web documents in the Internet.

 (b) A web server has three folders and several HTML files organised as shown in Figure 1. Use it to answer the questions that follow.
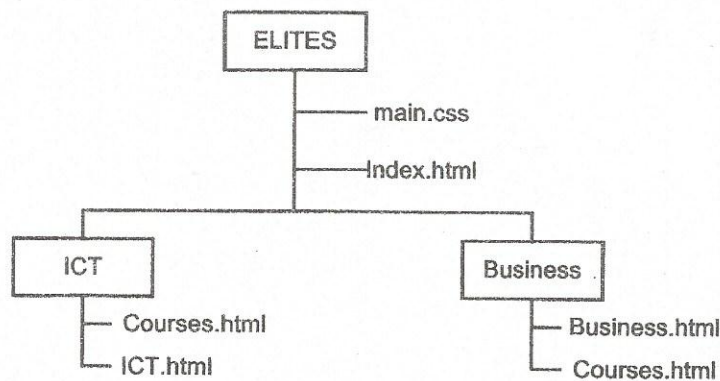

Figure 1

 (i) Write a HTML statement that would open the file named *Business.html* from the document:

 I. *index.html* when the text SEE BUSINESS DEPARTMENT in the page is clicked. (2 marks)

II.   *ICT.html* when the text COMPARE WITH BUSINESS in the page is clicked.   (2 marks)

(ii)   Explain the function of the file with *css* extension   (2 marks)

(c)   Explain the function of each of the following features of a web authoring and design software.

    (i)   Show Ruler   (2 marks)

    (ii)   Show Grid   (2 marks)

    (iii)   Snap to Grid   (2 marks)

(d)   Peter, a web master, would like to create a web page having a table of content as follows:

- If the text *Chapter 1* in the table of content is clicked, the browser jumps to the section of the page with the text *Introduction*.

- If the text *Chapter 2* in the table of content is clicked, the browser jumps to the section of the page with the text *OSI model*.

Write a HTML code that Peter would use in order to achieve his objective.   (6 marks)

3.   (a)   Explain the category of software required to perform each of the following in web programming.   (6 marks)

    (i)   create a web page;

    (ii)   upload web document;

    (iii)   view a web document.

(b)   Outline **two** ways in which a web designer would control the size of a graphic to be inserted on a web page.   (2 marks)

(c)   Distinguish between a *local folder* and a *remote folder* as used in web authoring applications.   (4 marks)

(d)   The following is a listed outline of topics.

    I.   CHAPTER ONE
        A. Introduction
        B. Preliminary Investigation
        C. Existing system
    II.   CHAPTER TWO
        • System design
        • System coding
    III.   CHAPTER THREE
        ▪ Implementation
        ▪ User training

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Write HTML code that would display the information as it appears on a browser.

(8 marks)

4. (a) Distinguish between *comparison* operators and *logical* operators as used in JavaScript programming language. (4 marks)

(b) (i) Explain a circumstance when each of the following *text input* controls would be used in HTML.

   I. Password input; (2 marks)

   II. Multi-line text input. (2 marks)

(ii) Illustrate the output when the following HTML code is run on a browser.

(6 marks)

```
<html>
<body>
<form>
User Name:  <input type="text" name="user_id" />
<br> <br>
Password:  &nbsp <input type="password" name="password"/>
<br><br>

<textarea rows="5" cols="50" name="description">
Enter description here...
</textarea><br><br>

<input type="checkbox" name="Networking" value="on"> Maths<br> <br>
<input type="checkbox" name="Programming" value="on"> Physics<br> <br>
</form>
</body></html>
```

(c) The following is an extract of ASCII table lookup used to display symbols in HTML documents.

Symbol	Code
€	€
£	£
®	®
÷	÷
—	—

Write HTML code that would display the following information on a web browser as it appears. (6 marks)

Funk® is *a registered company* dealing with currency exchange involving Euros(€) and pounds (£). The company **profits** are shared as follows:
   —¼ goes to ~~development~~ charitable organisations
   —And from the rest ÷ 4 goes to the company shareholders.

5.   (a)   Outline the function of each of the following commands on a web authoring tool:

(i)   save;   (1 mark)

(ii)   save as;   (1 mark)

(iii)   save all.   (1 mark)

(b)   Figure 2 shows a web authoring tool dialogue box obtained when creating a table.
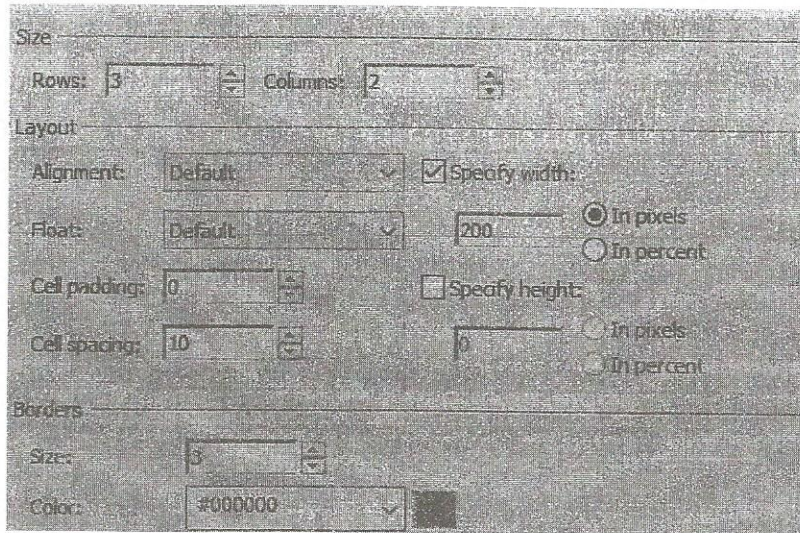

Figure 2

Describe the output generated from the settings.   (4 marks)

(c)   Write JavaScript program embedded in HTML code that would prompt a user to enter five integer values. The program should then compute the average of the values and display the results on a screen. Use *while* loop.   (8 marks)

(d)   (i)   State **four** examples of text editors that a user may choose from when installing a web authoring software.   (2 marks)

(ii)   Outline **three** disadvantages of using templates when creating websites using a web authoring tool.   (3 marks)

6.   (a)   The following is a list of words used in programming languages.

break dim continue default read open picturebox select try matrix show

Identify those that are keywords in JavaScript programming language.   (2 marks)

(b)   Treetop is a new company that intends to offer cloud computing and other web hosting services. The company has acquired different types of servers to manage their transactions.

(i)   Describe the function of each of the following services in the company.

I.   Application server;   (2 marks)

II.   Web server;   (2 marks)

III.   Database server.   (2 marks)

(ii)   Explain **three** security measures that the company should put in place to secure client's data.   (6 marks)

(c)   Tim, an ICT graduate, has just created his company website and was advised to register the domain name with the authorities.

    (i)   State the meaning of the term *domain name*.   (2 marks)

    (ii)   Explain **two** benefits of registering the company's domain name.   (4 marks)

7.   (a)   (i)   State the **three** *primitive data* types used in JavaScript, giving an example in each case.   (3 marks)

    (ii)   Explain function of each of the following escape sequence as used in JavaScript programming language:

        I.   \n   (2 marks)

        II.   \t   (2 marks)

        III.   \r   (2 marks)

(b)   Figure 3 shows the option made in a web application tool when creating web document. Use it to answer the questions that follow.

☐ Underline	☐ Small caps	☐ Sample
☑ Strikethrough	☐ All caps	☐ Definition
☐ Overline	☐ Capitalize	☐ Citation
☐ Blink	☐ Hidden	☑ Variable
☐ Superscript	☐ Strong	☐ Keyboard
☑ Subscript	☐ Emphasis	☑ Code

Figure 3

Write HTML statement that would be generated in its code window if the options made are applied on the word COMPUTER.   (3 marks)

(c)   Outline **four** ways in which a web designer would use *site menu* in the web authoring software menu bar.   (4 marks)

(d)   Outline **four** benefits that a small business organisation would gain by having a website.   (4 marks)

8.   (a)   State **four** requirements to be considered when acquiring a web programming language.   (4 marks)

(b)   State **two** differences between *code view* and *design view* as used in a web authoring tool.   (4 marks)

(c)   Distinguish between a *toolbox* and *tag properties* interfaces as used in web authoring software.   (4 marks)

(d) Write the HTML code that would split the screen using 5 pixels border frames to appear as shown in figure 4: The dimensions are in percentage of the screen size.
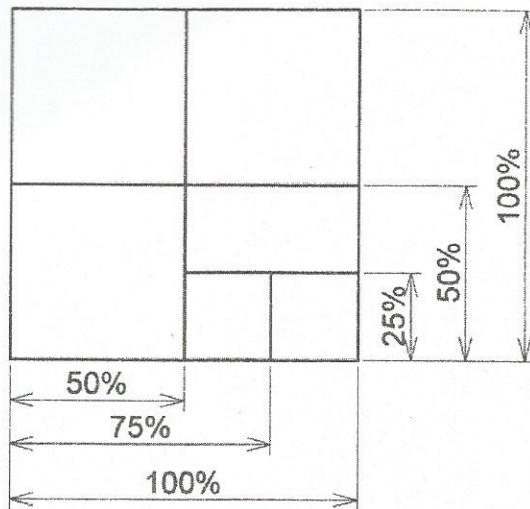
(8 marks)

100%

50%

25%

50%

75%

100%

Figure 4

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