

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE APPLIED COMPUTER SCIENCE**

ACSC 226: WEB DESIGN AND DEVELOPMENT

STREAMS: BSC. APPLIED COMPUTER SCIENCE

TIME: 2 HOURS

DAY/DATE: THURSDAY 13/04/2023

2.30 P.M. –4.30 P.M.

Instructions

- Answer Question **ONE** and any other **TWO** questions.
- Diagrams should be used whenever they are relevant to support an answer.
- Sketch maps and diagrams may be used whenever they help to illustrate your answer
- Do not write anything on the question paper
- This is a **closed book exam**, No reference materials are allowed in the examination room
- There will be **No** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely

SECTION A

ANSWER ALL THE QUESTIONS IN THIS SECTION

QUESTION 1 [30 MARKS]

a) Describe the following terms:

- i. Web browser. [2 Marks]
- ii. Search Engine. [2 Marks]

b) Highlight the values allowed in the JavaScript Boolean data type. [2 Marks]

c) Some text is to be presented in the format of a paragraph whose text size is 14 and color is green. Show how to do this using:

- i. Embedded CSS. [3 Marks]
- ii. Inline CSS. [2 Marks]

- iii. External CSS. [3 Marks]
- d) Write a JavaScript function that displays a string “Hello World” when the webpage is loaded. [3 Marks]
- e) Highlight any five key elements of an effective website. [5 Marks]
- f) Write HTML code to reproduce the following on a webpage. [8 Marks]
 - i. Kenya
 - ii. Uganda
 - iii. Tanzania

Other countries of the world include:

- iv. Sudan
- v. Japan

We have many other countries such as:

- a. China
- b. North korea
- c. South korea
- d. Namibia

SECTION B

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION 2 [20 MARKS]

- a) Given the HTML code below, design a sample page showing the output for the code

[7 Marks]

```
<html>
<head><title>Tutorials Table</title></head>
<body>
<hr>
<p>
<table width="70%" border>
<tr>
```

```

<td><b>General</b></td>
<td><b>Papers</b></td>
<td><b>Research</b></td>
<td><b>Lecturers</b></td>
</tr>
<tr>
<td rowspan= "2"><b>HTML </b></td>
<td>tutor 1</td>
<td colspan = "2">Tutor 2</td>
</tr>
</body>
</html>

```

- b) Images in a webpage are required to have a border of 2 pixels all around and be of size 400 pixels wide and 400 pixels long. Show how to achieve this using embedded CSS. [5 Marks]
- c) A person's first name is Samuel and their last name is Wambua. Using JavaScript, write code that displays the full name of this person. [4 Marks]
- d) Write JavaScript code that displays today's date when a button is clicked. [4 Marks]

QUESTION 3 [20 MARKS]

- a) Consider a picture **theimage.jpg** and use it for the following purposes:
- Make the picture theimage.jpg appear as a background image for a certain web page. [2 Marks]
 - Place the picture theimage.jpg on a web page. [3 Marks]
 - Use the picture theimage.jpg as a clickable link to open a webpage home.html [3 Marks]
 - Explain how pictures of the format jpeg differ from those of type gif and png. [4 Marks]
- b) A Citizen can only vote if they are 18 years or above. Write a JavaScript program that accepts the input age of a person and determines whether they are allowed to vote or not. [6 Marks]
- c) Explain why the <PRE> tag is used in HTML. [2 Marks]

QUESTION 4 [20 MARKS]

- a) Explain the differences between GET and POST in web form design. [4 Marks]

- b) Two integer values are to be added using JavaScript. Write JavaScript code where input is done through a Prompt dialog box and output of addition is displayed using an Alert dialog box. [6 Marks]
- c) Explain the meaning of the following in web design and development:
- i. Markup [2 Marks]
 - ii. Content Management System. [2 Marks]
 - iii. Localhost. [2 Marks]
- d) Consider the given code fragment. Use it to explain the syntax of the rule. [4 Marks]
- ```
h1, h2, h3 {
font-weight: bold;
font-family: arial;}
```

### QUESTION 5 [20 MARKS]

- a) A list of counties (Tharaka Nithi, Embu and Meru) are to be displayed on a web page. Write HTML code to place the counties using:
- i. Radio Buttons. [2 Marks]
  - ii. Drop down control. [2 Marks]
  - iii. Check box controls. [2 Marks]
- b) Demonstrate how to make unclicked hyperlinks color orange and size 14 using:
- i. Class CSS selectors. [3 Marks]
  - ii. Universal CSS selectors. [3 Marks]
- c) Write the HTML code to do the following:
- i. Create space between two characters. [2 Marks]
  - ii. Place the Trade Mark symbol on a web page. [2 Marks]
- d) Write JavaScript code that validates a text box to ensure only numeric characters are accepted as valid inputs. [4 Marks]
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