UNIVERSITY EXAMINATIONS

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE AWARD OF BACHELOR OF SCIENCE APPLIED COMPUTER SCIENCE

ACSC 226: WEB DESIGN AND DEVELOPMENT

STREAMS: BSC. APPLIED COMPUTER SCIENCE

TIME: 2 HOURS

DAY/DATE…

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

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

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</td>
<td><b>Research</td>
<td><b>Lecturers</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 todays 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:
   i.   Make the picture theimage.jpg appear as a background image for a certain web page. [2
         Marks]
   ii.   Place the picture theimage.jpg on a web page. [3 Marks]
   iii. Use the picture theimage.jpg as a clickable link to open a webpage home.html [3 Marks]
   iv.   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]