



**Strathmore**  
UNIVERSITY

SCHOOL OF COMPUTING AND ENGINEERING SCIENCES  
BACHELOR IN BUSINESS INFORMATION TECHNOLOGY  
END OF SEMESTER EXAMINATION  
BBIT 2102 : WEB APPLICATION DEVELOPMENT

DATE: 27<sup>th</sup> JULY 2022

TIME: 2 Hours

**Instructions:**

1. This examination consists of **FIVE** questions.
2. Answer **Question One (COMPULSORY)** and any other **TWO** questions.

**Question One** **(30 Marks)**

- a) Distinguish between the following in web development;
  - i. Frontend and backend. (2 marks)
  - ii. FTP and SMTP. (2 marks)
  - iii. User and user-agent. (2 marks)
  - iv. Internet and world wide web. (2 marks)
- b) Write a valid HTML document containing a primary heading with a person's name and for each element specify a comment stating the purpose of it. (6 marks)
- c) Gimli has secured a contract to develop a website for a company named Sitrathmore and at once promises the management that he will register a domain name *strathmore.or.ke* for them to keep up with an institution that almost has a similar name. Discuss whether Gimli will succeed. (5 marks)
- d) Using pseudocode, discuss two technical strategies you can use to achieve a responsive web design layout. (6 marks)
- e) Every element in HTML generates a box known as the element-box, using a diagram, illustrate the various regions it contains. (5 marks)

## Question Two

(15 Marks)

- a) Draw the associated DOM tree that the browser will generate given the code below; (5 marks)

```
<html>

  <head>

    <title>JS 101</title>

    <p>Hello JavaScript</p>

  </head>

<body>

  <em>The start of something awesome!</em>

</body>

</html>
```

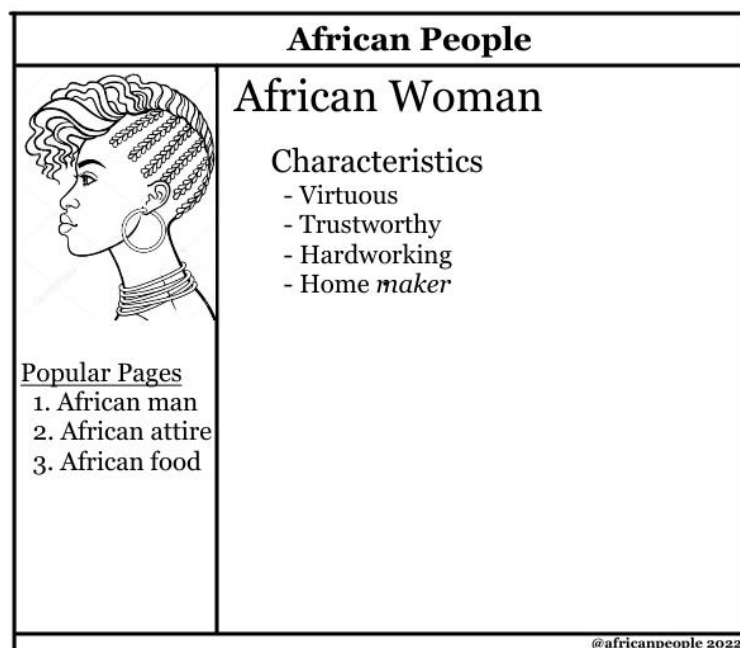
- b) Write a JavaScript function that adds two predefined numbers when a button is clicked and shows the result as an alert message. (10 marks)

## Question Three

(15 Marks)

- a) Write a valid HTML document using some semantic tags that would represent an un-styled structure of the layout below;

*Note : Only the HTML is required and the image is named african-woman.jpg*



(9 marks)

- b) Identify a block and inline element in your code in **Question Three** a) above and describe two differences between them. (6 marks)

#### **Question Four**

**(15 Marks)**

- a) State two places on your HTML code where you can set titles that increase the page's ranking on search engines. (2 marks)
- b) Describe the steps to follow when adding custom fonts to a HTML document. (3 marks)
- c) Write a PHP code snippet that prints out the following names stored in the variable below line by line on the browser;
- ```
$users = ['Naserian', 'Wekesa', 'Sagini', 'Syanwa', 'Okumu', 'Ndolo'];
```
- (5 marks)
- d) Using a diagram, describe the life cycle of web server events when handling requests. (5 marks)

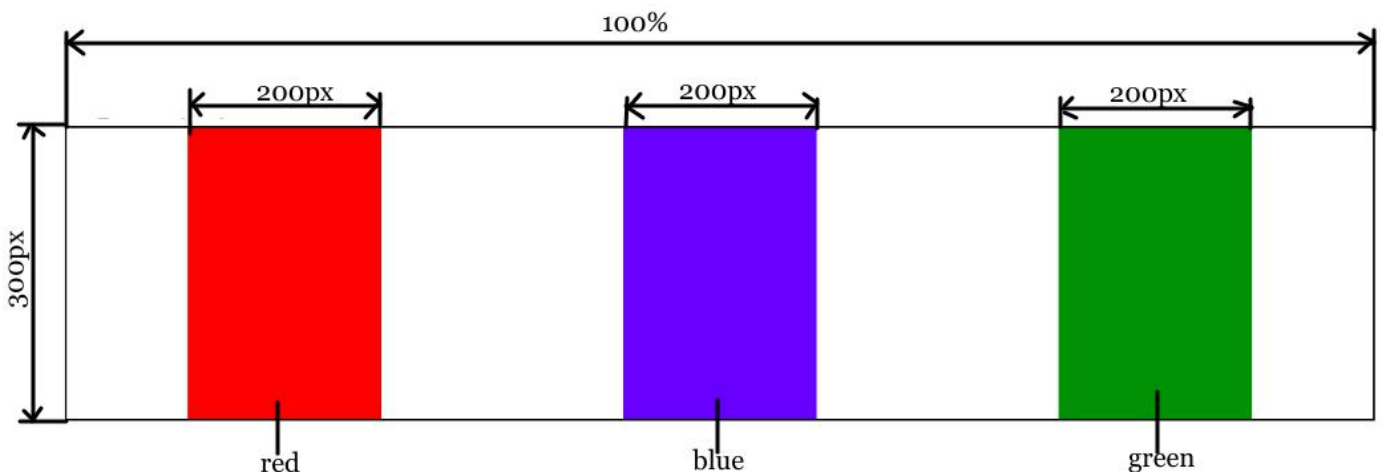
#### **Question Five**

**(15 Marks)**

- a) State two ways of linking CSS and HTML pages. (2 marks)
- b) State and explain the resulting color of the paragraph element below;
- ```
<p id='test' class='important'> A simple paragraph </p>
```
- i. `p{color:red; color:blue; color:pink;}` (2 marks)
- c) Using Flexbox layout, write CSS that will convert the HTML elements below to look as depicted in the diagram below it. (11 marks)

```
<div class='container'>
    <div id='one'></div>
    <div id='two'></div>
    <div id='three'></div>
</div>
```

**Note :** the various arrows are indicative of the units and colors and are not part of the layout.



----- *End of Examination* -----