KISII ~FONS SCIENTIAE~ UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF
BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING
FIRST SEMESTER 2022/2023
[SEPTEMBER-DECEMBER, 2022]**

SOEN 202: WEB PROGRAMMING I

STREAM: Y2S1   **TIME: 2 HOURS**

DAY: WEDNESDAY, 12:00 – 2:00 PM   **DATE: 21/12/2022**

INSTRUCTIONS
1. *Do not write anything on this question paper.*
2. *Answer question ONE and any other TWO questions.*

QUESTION ONE

a. When an event takes place it is conveyed to the Web browser and then to a document. Use an example to describe what it means to handle an event and how it is handled

(10 marks)

b. Given the array, var a = [20, 40, 60, 80, 100], write JavaScript code to accesses the value 40 and explain how the code works.

(5 marks)

c. Use an example to demonstrate how to implement the POST and GET methods in HTML

(5 marks)

d. Write a web page which shows the image winter.giffrom December 1st through March 31st, and summer.giffor the rest of the year. Assume your html code is in weather.html, and your JavaScript code is in weather.js.   (5 marks)

e. Use an example to explain the meaning and functions of event handlers in JavaScript   (5 marks)

QUESTION TWO

a. Explain the output from the following code when it stops running
```
var result = "";
for (var i = 0; i < a.length; i++)
{var s = a[i]; var c = s.charAt(i); if (c == "e")
{result += s;} }
```
(5 marks)

b. Write a function in JavaScript that enables an information system to automatically determine the current date and time   (5 marks)

c. Write a function in JavaScript to sum numbers from 0 to 10.

(10 marks)

QUESTION THREE

a. Write a simple html code that demonstrates how to create a link to an email address

(10 marks)

b. When developing an application in JavaScript, it is good programming practice to initialize certain variables to null, Use an example to explain the benefits of initializing such variables in JavaScript to null

(5 marks)

c. What does the following code output

```
 1 const sample = Promise.resolve('Data');
 2
 3 (async () => {
 4   try {
 5     console.log(await sample);
 6   } catch {
 7     throw new Error('Error');
 8   } finally {
 9     console.log('Finale');
10   }
11 })();
```

(5 marks)

QUESTION FOUR

a. Explain how you can properly open a second Web browser window with a single JavaScript statement   (5 marks)

b. Explain why would one use an attribute of TYPE=HIDDEN in an INPUT element in JavaScript   (5 marks)

c. Explain with the use of JavaScript code or any code in any language how to access and retrieve information from a remote database

(10 marks)

QUESTION FIVE

Create a website to demonstrate the use of the following elements

a. div   (5 marks)
b. nav   (5 marks)
c. hyperlink   (5 marks)
d. header   (5 marks)