

# UGANDA MARTYRS UNIVERSITY

## FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION SYSTEMS

END OF SEMESTER FINAL ASSESSMENT

SEMESTER II, 2023/2024

SECOND YEAR EXAMINATION FOR DIPLOMA IN COMPUTER SCIENCE &  
INFORMATION TECHNOLOGY

EVENT DRIVEN PROGRAMMING

COURSE CODE: DIT 62205

DATE: \_\_\_\_\_

DURATION: 3 Hours

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### *Instructions:*

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1. *Carefully read through ALL the questions before attempting*
2. *Section A is compulsory. Also, attempt any three questions from Section B.*
3. *No **names** should be written anywhere on the examination book.*
4. *Ensure that your **Registration Number** is indicated on all pages of the examination answer booklet.*
5. *Ensure your work is **clear** and **readable**. Untidy work shall be penalized.*
6. *Any type of examination Malpractice will lead to automatic disqualification.*
7. *Do not write anything on the question paper.*

## SECTION A (40 Marks)

Write a letter corresponding to the correct answer. (E.g. 1. a) Each question carries two (2) marks.

1. Which of the following tags is used to define a hyperlink in HTML?

- a) <div>
- b) <span>
- c) <a>
- d) <link>

2. What does CSS stand for?

- a) Creative Style Sheets
- b) Cascading Style Sheets
- c) Computer Style Sheets
- d) Colorful Style Sheets

3. Which of the following is an invalid javascript method?

- a) getElementById()
- b) getElementByClass
- c) getElementByClassName
- d) none of the above

4. What does the following CSS rule do?

```
.example {  
  color: red;  
  font-size: 16px;  
}
```

- a) Sets the background color of elements with class "example" to red
- b) Sets the text color of elements with class "example" to red
- c) Sets the font size of elements with class "example" to 16 pixels
- d) Sets the border color of elements with class "example" to red

5. Which HTML attribute is used to specify the URL of the image to be displayed?

- a) src
- b) href
- c) link
- d) url

6. What is the output of the following JavaScript code?

```
console.log(10 + "20");
```

- a) 30
- b) 1020
- c) "1020"
- d) Error

1. a) Each question carries two (2) marks.

7. Which of the following is NOT a valid JavaScript data type?

- a) number
- b) string
- c) array
- d) boolean

8. What is the purpose of the "debugger" statement in JavaScript?

- a) To print debug messages to the console
- b) To stop the execution of JavaScript code and start the debugger
- c) To enable debugging mode in the browser
- d) To highlight syntax errors in the code

9. Which of the following is best used to create a loop that runs a specific number of times in JavaScript?

- a) for loop
- b) while loop
- c) do-while loop
- d) switch statement

10. What is the output of the following JavaScript code?

```
var x = 10;  
function foo() {  
  console.log(x);  
  var x = 20;  
}  
foo();
```

- a) 10
- b) 20
- c) undefined
- d) Error

11. Which JavaScript method is used to remove the last element from an array and return that element?

- a) pop()
- b) shift()
- c) slice()
- d) splice()

12. What does the "mouseenter" event do in JavaScript?

- a) Fires when a mouse button is pressed
- b) Fires when the mouse pointer enters an element

- c) Fires when the mouse pointer leaves an element
- d) Fires when a keyboard key is pressed

**13. Which HTML attribute is used to specify the alternate text for an image?**

- a) alt
- b) title
- c) description
- d) caption

**14. What is the purpose of the "continue" statement in JavaScript?**

- a) To exit the loop immediately
- b) To skip the current iteration of the loop and continue with the next iteration
- c) To terminate the script execution
- d) To return a value from the loop

**15. What is the default position value for HTML elements?**

- a) relative
- b) absolute
- c) fixed
- d) static

**16. Which JavaScript method is used to round a number to the nearest integer?**

- a) round()
- b) ceil()
- c) floor()
- d) abs()

**17. What is the purpose of the "target" attribute in HTML anchor (<a>) tags?**

a) It specifies the URL of the linked document

b) It specifies where to open the linked document

c) It specifies the text to be displayed in the link

d) It specifies the link type

**18. What is the output of the following JavaScript code?**

```
var x = 10;
if (x === "10") {
    console.log("Equal");
} else {
    console.log("Not equal");
}
```

a) Equal

b) Not equal

c) Error

d) undefined

**19. What is the purpose of the "oninput" event in HTML?**

a) Fires when the value of an input field is changed

b) Fires when an element loses focus

c) Fires when an element is clicked

d) Fires when the page finishes loading

**20. Which CSS property is used to change the color of text?**

a) text-color

b) color

c) font-color

d) text-style

## SECTION B (60 Marks)

Attempt any three questions from this section.

### Question 1 (20 marks)

- a) Describe the difference between "==" and "===" operators in JavaScript. [04 marks]
- b) Give an example of when you would use each operator. [04 marks]
- c) Explain potential pitfalls when using the "==" operator. [04 marks]
- d) How does the "===" operator handle type coercion compared to the "==" operator? [04 marks]

### Question 2 (20 marks)

- a) What are the different types of loops available in JavaScript? [04 marks]
- b) Provide an example code snippet for each type of loop. [04 marks]
- c) Discuss the advantages and disadvantages of each type of loop. [04 marks]
- d) In what scenarios would you choose one type of loop over another? [04 marks]

### Question 3 (20 marks)

- a) What are event listeners in JavaScript, and how are they used? [04 marks]
- b) Provide an example code snippet showing the syntax for adding an event listener to an HTML element. [04 marks]
- c) Discuss the advantages of using event listeners over inline event handlers. [04 marks]
- d) How can you remove an event listener from an element in JavaScript? [04 marks]

### Question 4 (20 marks)

- a) Using examples, distinguish between / and % operators as used in javascript programming [04 marks]
- b) Distinguish between “onblur” and “onchange” events. [02 marks]
- c) The body mass index (BMI) of a person is computed based on the body weight in kilograms and the body height in meters using the formula  $\frac{weight}{height^2}$ . Write a simple javascript program that allows a user to enter the weight and the height in the text boxes. The program should then compute the BMI and then display the BMI value with an additional message depending on where the BMI value falls [06 marks]

Scale	Message
0-18	You are underweight, watch your diet!
18-25	You are normal, keep it up!
25-30	You are overweight, please exercise
Over 30	You are obese, check diet and please exercise

- d) Write a javascript program that converts temperature from °C to °F using the following formula:  $F = 32 + \frac{9}{5}C$ . The code should be attached to a submit button, and the user should the value for °C in an input text box [04 marks]
- e) State a reason why each of the following visual conditions is wrong [02 marks]
  - i. *temperature >45 and <65*
  - ii. *value 1 and value 2=5*
- f) List two examples of event driven programming languages [02 marks]

**Question 5 (20 marks)**

- a) Describe the difference between the *"onclick"* and the *"mousedown"* event in javascript. **[04 marks]**
- b) Provide examples of scenarios where you would use each of these events. **[04 marks]**
- c) Explain the difference between a *checkbox* and a *radiobutton* as used in javascript programs. **[04 marks]**
- d) Given the following code snippet as added in the **body** element of some website

```
1 <div>
2     <label><input type="radio" name="cards" id="card1" value="Mastercard"
onchange="showCard(1);" />Mastercard</label>
3     <label><input type="radio" name="cards" id="card2" value="Visa"
onchange="showCard(2);" />Visa</label>
4     <label><input type="radio" name="cards" id="card3" value="Discovery"
onchange="showCard(3);" />Discover</label>
5 </div>
```

And the following javascript function as added in the **head** element of the website, explain what the code does and the corresponding output if the user selects the second radiobutton.

**[04 marks]**

```
6 <script>
7     function showCard(num) {
8         var selected = document.getElementById("card" + num).value;
9         alert("You have selected " + selected);
10    }
11 </script>
```

**~ THE END ~**