061306T4CSC

COMPUTER SCIENCE LEVEL 6

ICT/OS/CS/CR/10/6/A

ICT/OS/CS/CR/10/6/B

Demonstrate Web Design Skills

July/August 2025

TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

PRACTICAL ASSESSMENT

INSTRUCTIONS TO CANDIDATE:

1. You are required to perform the following tasks
   - *i. Install web browser/Firefox/Microsoft edge/Opera/appropriate browser*
   - *ii.* Install appropriate text editor/Notepad ++
   - *iii. Create HTML document*
   - *iv. Add basic HTML elements to file*
   - *v. Use layout elements*
   - *vi. Add layout attributes to file*
   - *vii. Work on style sheets*
   - *viii. Introduce javascript syntax*
   - *ix. Work on javascript datatypes*
   - *x. Work on Document Object Model(DOM)*
   - *xi. Use javascript functions*

xii. *Work on arrays*

xiii. *Install JQuery use JQuery*

xiv. *Introduce JQuery syntax*

xv. *Work on JQuery events*

xvi. *Dom Manipulation with JQuery*

2. You have been provided with the following resources:

i. *A working computer*

ii. *Internet Access*

Task1: Installation of a web browser and text editor

You are required to perform the following activities:

i. Download web browser/Firefox/Microsoft edge/Opera/appropriate browser.

ii. Install web browser/Firefox/Microsoft edge/Opera/appropriate browser.

iii. Install the appropriate text editor.

iv. Launch the browser.

v. Launch the text editor.

Task2: *Create HTML document and add basic elements*

i. Create HTML document that contains basic elements.

ii. Create HTML document that contain table elements

iii. Create HTML document that contain list elements

iv. HTML document that contains form elements

Task3: Create HTML document that contains layout elements shown.

i. <header>
ii. <nav>
iii. <section>
iv. <footer>

Task4: Create a HTML document to implement style sheets

i. Inline
ii. Internal
iii. External style sheet

Task5: Implement Javascript Syntax and data types

i. Demonstrate the javascript syntax

ii. Use javascript datatypes to declare variables

iii. Write a program that can add two integers and display output on the screen.

iv. Write a program that can prompt a user to input value from the keyboard and print it on the screen.

Task6: Use DOM to change elements

Create Javascript program that can use DOM to change elements

Task7: Use javascript functions

i. Demonstrate the javascript function syntax

ii. Use javascript datatypes to declare variables

iii. Write a program that can add two integers by the use of function.

Task8: Use Javascript arrays

i. Write statements that can demonstrate Three types of arrays.

ii. Write javascript programs that can input 5 integers into an array and print the list on the screen.

iii. Write a javascript program that can input values into 2X2 array and print the values on the screen.

Task9: Install and use JQuery(syntax and events)

i. Write the syntax of JQuery

ii. Explain the events of JQuery

iii. Write programs that implement the events of JQuery

Task10: DOM manipulation with JQuery

i. Illustrate DOM tree

ii. Write Javascript that contain objects that can be manipulated by JQuery.

Task 11: Develop a Javascript program that can be used to determine the mean grade of students in a school.

The management of a school would like to automate the processing of student marks by the implementation of a computerized sub-system. You have been tasked to develop a webpage using html and javascript that will be used to determine the mean grade of students. The sub-system should be able to capture; admission number, name, mathematics, Biology, Chemistry and physics. The system should be able to:

- Calculate the sum of all subjects,
- Calculate the average mark

- Determine the mean grade basing on the average using the following criteria.
- Print student details, computations and mean grade on the screen.

Average	Mean Grade
80-100	A
70-79	B
60-69	C
40-59	D
0-39	E

Implement the following activities.

i. Capture student details
ii. Capture non-numeric values in admission number and marks (display error message if non-numeric values are entered).
iii. Calculate the sum and average marks
iv. Determine the grade
v. Display all the student details.
vi. Display calculations and mean grade on the screen (sum, average, mean grade)

Task 12: Create a sub-system in JavaScript that can calculate areas of various shapes.

Create a web page containing the code and the shape as shown in the given format, save it as **areas.html**. The page should contain javascript functions namely triangle**(), rectangle(), circle**() and **square().** The page should then allow the user to enter the code of the shape, the function is invoked to input the appropriate dimensions, calculate the area and print the computations on the screen. The system should capture non-numeric values.

Shape Calculator

Code	Shape
1	Triangle
2	Rectangle
3	Circle
4	Square

Enter Code ▭

Based on the code entered, the, system should invoke the appropriate function to input dimensions, calculate the area and print the area on the screen

Implement the following activities

i. Launch the text editor
ii. Display the message “Shape Calculator”
iii. Declare variables
iv. Create list of shapes(code and shape)
v. Capture the code of the shape
vi. Create four functions (triangle, rectangle,circle,square)
vii. Invoke the appropriate function from the code entered
viii. Input the appropriate dimensions
ix. Calculate the area
x. Display area