WITI Intermediate Web Design & Programming Mid-Semester Exam (Total: 40 Marks)

Time: 2 Hours   Date: Friday 28th March 2025.   By: Hajjat Hadijah Kyampeire

Note: All work is to be submitted via GitHub

Section A: Multiple Choice Questions (8 Marks)

1. What will be the output of the following code?

```
let x = [1, 2, 3];
let y = x;
y.push(4);
console.log(x);
```

a) [1, 2, 3].   b) [1, 2, 3, 4].   c) undefined.   d) [4]

2. Which of the following data types is not supported in JavaScript?
   a) Number.   b) Undefined.   c) Character   d) Object
3. What does the typeof operator return when used on null?
   a) "null".   b) "object".   c) "undefined".   d) "number"
4. What is the purpose of the Array.prototype.map() method?
   a) To filter elements in an array
   b) To modify each element and return a new array
   c) To remove elements from an array
   d) To find the index of an element
5. What will be the output of the following code snippet?

```
function test() {
  var a = 5;
  if (true) {
    var a = 10;
  }
  return a;
}
console.log(test());
```

a) 5.   b) 10.   c) undefined   d) ReferenceError

6. How can you convert a string to an integer in JavaScript?
   a) parseInt().   b) Number().   c) Math.floor().   d) All of the above
7. Which method is used to remove the last element from an array?
   a) pop().   b) shift()   c) splice().   d) slice()
8. Which keyword is used to define a variable that cannot be reassigned?
   a) let.   b) var.   c) const.   d) final

Section B: Essay Questions (10 Marks)

1. Explain the difference between let, const, and var in JavaScript.
2. What are JavaScript objects, and how are they different from arrays?
3. Explain the difference between == and === in JavaScript.
4. What is an event in JavaScript? Provide an example of how to handle a button click event.
5. Describe the forEach and map methods in JavaScript. How are they similar, and how do they differ?

Section C: Coding Questions (12 Marks)

1. Write a function to reverse a given string.
2. Implement a function to find the sum of all even numbers in an array.
3. Create a function that takes two numbers. If the numbers are the same, return their product. If they are different, return their sum.
4. Write a function that checks if a given word is a palindrome.

Section D: CRUD Project - "Bucket List" (10 Marks)

Develop a simple JavaScript application named "Bucket List" that can do the following:

1. Add an item to the bucket list (Create).
2. Display the list of items (Read/List).
3. Remove an item from the bucket list (Delete).
- Use simple HTML, CSS for the interface and vanilla JavaScript for functionality.
- Demonstrate adding, listing, and deleting items with buttons.