#### EXPERIMENT #5

### JAVASCRIPT – DOM ELEMENTS AND EVENTS

### **Objective:**

To create a web page which demonstrates dynamic actions for user interactions using JavaScript document object model methods and events.

# **Description:**

## **Document Object Model:**

A Document object represents the HTML document that is displayed in that window. The Document object has various properties that refer to other objects which allow access to and modification of document content. The way a document content is accessed and modified is called the Document Object Model, or DOM.

### Finding HTML Element by Id

```
var myElement = document.getElementById("intro");
```

### Finding HTML Elements by Tag Name

```
var x = document.getElementsByTagName("p");
Finding HTML Elements by Class Name
var x = document.getElementsByClassName("intro");
Finding HTML Elements by CSS Selectors
var x = document.querySelectorAll("p.intro");
Attach event handler to the document
document.addEventListener("click", function()
```

```
document.getElementById("demo").innerHTML = "Karunya";
});
```

# **JavaScript Events:**

JavaScript's interaction with HTML is handled through events that occur when the user or the browser manipulates a page.

Event	Description
onload	Triggers when the document loads

onclick	Triggers on a mouse click
onchange	Triggers when an element changes
onkeyup	Triggers when a key is released
onkeydown	Triggers when a key is pressed
onmouseover	Triggers when the mouse pointer moves over an element
onmousedown	Triggers when a mouse button is pressed
onsubmit	Triggers when a form is submitted

### Questions

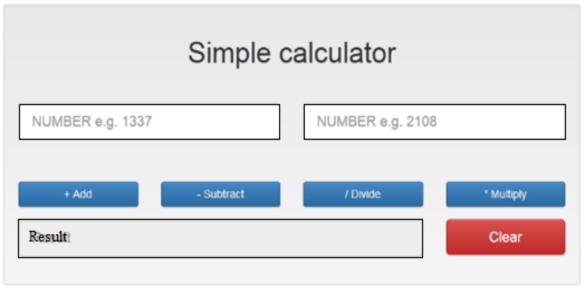
## Select two Questions as per the following formula

Question A = (Your Regno%5)+1

Question B = (Your Regno%5)+2

1. Create a web page with JavaScript program to perform basic mathematic operations such as addition, subtraction, multiplication, and division for the two given numbers (input from user). [use onclick event]

# **Sample Output:**



2. Create a web page with JavaScript program to calculate and display the BMI value for the given weight and heights (input from user). You should also describe the person's body type based on their BMI score using the following criteria: [Use onkeyup event]

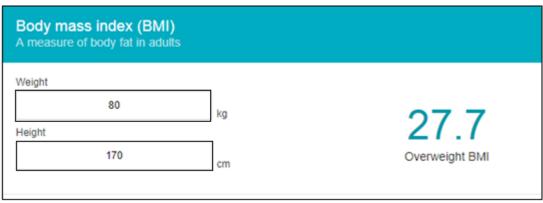
BMI = weight(kg)/ $[height(m)]^2$ 

• Underweight: < 18

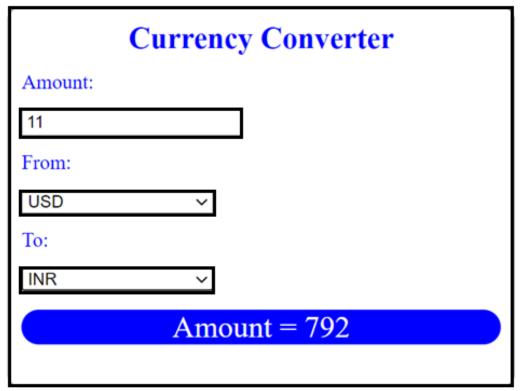
● Normal: 18 – 25

• Overweight: 25 – 30

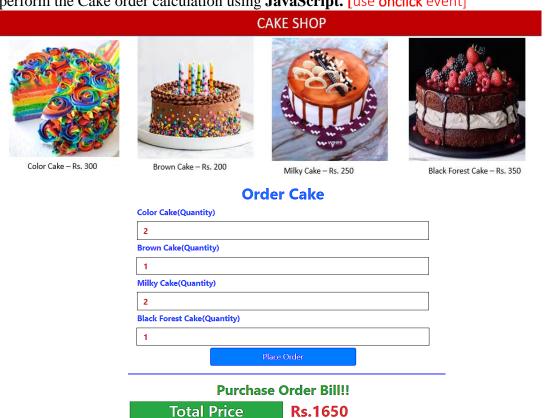
• Obese: > 30



3. Create a web page using HTML, CSS and JavaScript program to develop currency convertor. Keep at least 4 currencies via drop down list box ( <select> Element ) as given in the sample output. [Use onchange event]



4. Design a webpage using HTML, CSS and **JavasScript** as per the following design and perform the Cake order calculation using **JavaScript**. [use onclick event]



5. Create a web application to develop the following Bank loan EMI calculator using client side Java Script. The formula for calculating the EMI is given below. Where, P is Loan Amount, R is a rate of interest and N is a tenure in months. [convert Year as months] [Use onkeyup event]

$$EMI = P \times R \times (1 + R)^{N}$$
$$[(1 + R)^{N} - 1]$$

EMI Calculator formula

R – Rate of Interest – Annual Interest Rate/12/100

Loan EMI Calculator	
Loan Amount(Rs.):	
500000	
Annual Interest Rate(%):	
15	
Tenure(Years):	
5	
Loan Amount: ₹500000	
Total Interest: ₹213698	
EMI: ₹13,915	
Total Repayment: ₹713698	