Unit -III

Part – A

1. **What is a Scripting Language? Give its Types.**

   A scripting language is executed by interpreting the script one by one at runtime. There are two type of scripting language

   - Server Side Scripting Language
   - Client Side Scripting Language

2. **What are the Logical Operators available in JavaScript?**

   In JavaScript there are three logical operators. They are

   - AND - &&
   - OR - ||
   - NOT - !

3. **Write the syntax of for/of loop.**

   This loop is used to loop through the values of an array

   Syntax

   ```
   for(var of object)
   {
     Code block
   }
   ```

4. **What is DOM?**

   DOM - Document Object Model. It is used to specify the logical structure of the webpage and the way it can be manipulated.

5. **What is an Alert Dialog Box?**

   It is a simple dialog box used to show a short message. It contains only OK button to close the box and continue.

   Syntax

   ```
     alert("Message");
   ```

6. **Write any two Window Events.**

   - onload
   - onunload

Part – B

1. **Write the Need of Scripting Language.**

   The important needs of a scripting language in a webpage is given below

   - It is used to reduce the web server overhead
   - It is used to make the website responsive
   - It executes the code faster
   - It is used to create interactive user interface
   - It can be used to create Open Source Tools

2. **Write about equal to and identical operators in JavaScript.**

   Equal to Operator(==)

   This operator is used to compare the values of two variables. It does not check the type of the variable. It returns true if the values are same

   Identical Operator (===)

   This operator compares the values as well as the type of two variables. This return true only if both the variable has same value and they are of the same data type.

   Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Java Script</title>
    <meta charset="UTF-8">
  </head>
  <body>
    <h1> Equal To and Identical Operators</h1>
    <script type="text/javascript">
      var a,b;
      a = 10;
      b = "10";
      document.write("<h5>Equal to Operator[==]:"+(a!=b)+"</h5>");
      document.write("<h5>Identical Operator[===]:"+(a!==b)+"</h5>");
    </script>
  </body>
</html>
```

3. **Explain break and continue statement in JavaScript.**

   Break statement is used in loops and functions. When used in a loop it breaks the loop execution and continues execution of the code after the loop.

Syntax

```
break [label];
```

Continue statement is used in loops. It skips code written after the continue statement and executes the loop from the beginning.

Syntax

```
continue [loop];
```

4. **What is a function? Give its syntax.**

A function is a group oc code which can be called from anywhere in the program. It allows a big program to be divided into smaller parts. In JavaScript a function is defined using the "function" keyword.

Syntax

```
function name(par1, par2,…)
{
 //Code to be executed
 [return variable;]
}
```

5. **Write about Window Object, Document Object and Form Object.**

Window Object is placed at the top of the DOM hierarchy. It represents the window of a browser.

Document Object is placed next to the window object in the DOM hierarchy. It represents the whole HTML document that is loaded in the browser. It is the root element that represents the HTML document.

Form Object represents the <form> element within the HTML document. It is used to access the input elements that are present within the <form> element.

6. **Write about Mouse Events.**

These are the events that are triggered based on the actions carried out by a mouse. Some important mouse events are

- onclick(): Called when the user clicks the mouse button
- onmouseover(): Called when the user places the mouse over an element
- onmousedown(): Called when the mouse button is down
- onmouseup(): Called when the mouse button is up

Part – C

1. **What are the Data Types available in JavaScript? Give an example Script**

   Data Types are the building block of a programming language. In JavaScript there are five Data Types available, they are.

   - **Numbers:** Represent both integer and floating point numbers. Mathematical operators can be applied on numbers.
   - **String:** Represent both characters and strings. It is formed by using single quotes (‘’) or double quotes (“”).
   - **Boolean:** It has only two values: true and false. It is used in condition testing
   - **NULL:** It is used to represent an empty value. NULL and 0 are not the same.
   - **Undefined:** It is used to specify that a variable is declared but it does not contain any value.

   Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Java Script</title>
    <meta charset="UTF-8">
  </head>
  <body>
    <h1>JavaScript Data Types</h1>
    <script type="text/javascript">
    var a,b,c,d,e;
    a = 10;
    b = "Welcome";
    c = true;
    d = null;
    document.write("<h5>Number:"+a+"</h5>");
    document.write("<h5>String:"+b+"</h5>");
    document.write("<h5>Boolean:"+c+"</h5>");
    document.write("<h5>Null:"+d+"</h5>");
    document.write("<h5>Undefined:"+e+"</h5>");
    </script>
  </body>
</html>
```

2. **Explain about JavaScript Switch Statement.**

   Switch statement is a value based branching statement. Based on the value provided a particular case statement is executed. If there is no match then the default case is executed. In JavaScript string value can be used in switch statement.

Syntax

```
switch(value)
{
case val1:
            break;
case val2:
            break;
default:
            break;
}
```

Example

```
<!DOCTYPE html>
<html>
  <head>
            <title>Java Script</title>
            <meta charset="UTF-8">
  </head>
  <body>
            <h1>Switch</h1>
            <script type="text/javascript">
            var day;
            day = 'mon';
            switch(day)
            {
              case 'Mon':
                        document.write("<h3>Monday</h3>");
              break;
              case 'Tue':
                        document.write("<h3>Tuesday</h3>");
              break;
              case 'Wed':
                        document.write("<h3>Wednesday</h3>");
              break;
              case 'Thu':
                        document.write("<h3>Thursday</h3>");
              break;
              case 'Fri':
                        document.write("<h3>Friday</h3>");
              break;
              case 'Sat':
                        document.write("<h3>Saturday</h3>");
              break;
              default:
                        document.write("<h3>Sunday</h3>");
```

```
                break;
              }
              </script>
    </body>
  </html>
```

3. **Explain in detail about array object and its methods.**

   Array is an ordered collection to store multiple values of similar data type.

   Syntax

   ```
   var array_name = new Array(values);
                  (or)
   var array_name = [values]
   ```

   In JavaScript there are some additional methods which can be applied on the array. They are

- length: it is used to return the length of the array.
  Syntax
  len = array.length;
- concat(): It is used to combine two array into a single array
  Syntax
  new_array = array.concat(array1);
- filter(): It is used to filter the elements that pass the given test
  Syntax
  new_array = array.filter(e=>(condition));
- forEach(): This calls a function for each element in the array
  Syntax
  array.forEach(e=>function(e));
- join(): This method joins all elements into a string
  Syntax
  string = array.join(separator);
- sort(): This method sorts the elements of the array
  Syntax
  new_array = array.sort();
- reverse(): This method reverse the elements of the array
  Syntax
  new_array = array.reverse();
- indexOf(): This method return the first index of the element searched.
  Syntax
  array.indexOf(search);
- push(): It is used to add an element at the last of the array
  Syntax
  array.push(value);
- pop(): It is used to remove the last element from the array.
  Syntax
  array.pop();

4. **Explain about Prompt Dialog Box with an example.**

It is used to get input from the user. This box contains an Ok and Cancel button. When the user clicks the Ok button the value entered by the user is returned to JavScript. If the user clicks Cancel then it will return null

Syntax

```
    var val = prompt(“Message”);
```

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Java Script</title>
    <meta charset="UTF-8">
  </head>
  <script type="text/javascript">
   function tfr()
   {
    var msg ="Enter Amount to Transfer";
    var amt = prompt(msg);
    if(amt>0)
    {
       document.getElementById('stat').innerHTML = "Rs."+amt+" Transfer 
initiated";
    }
    else if(amt == null)
    {
      document.getElementById('stat').innerHTML = "Transfer Declined";
    }
    else
    {
      document.getElementById('stat').innerHTML = "Enter Valid Amount";
    }
    }
  </script>
  <body>
    <h1>Prompt Dialog Box</h1>
    <h1>Amount Transfer</h1>
    <input type="button" value="Transfer" onclick="tfr()">
    <h4 id="stat"></h4>
  </body>
</html>
```

5. **Write an example JavaScript for Keyboard events.**

```
<!DOCTYPE html>
<html>
  <head>
     <title>Java Script</title>
     <meta charset="UTF-8">
  </head>
  <style>
     header {
     text-align:center;
     height: 100px;
     background-color: #60dd5a;
     }
     footer {
     text-align:center;
     font-size: 12px;
     background-color: #f1dc73;
     }
     section{
     width: auto;
     border: 2px solid gray;
     }
  </style>
  <script type="text/javascript">

     function getkey()
     {
     document.getElementById('myp').innerHTML="You Have Pressed: "+event.key;
     }
     function keydown()
     {
     document.getElementById('myp1').innerHTML="Keydown";
     }
     function keyup()
     {
     document.getElementById('myp1').innerHTML="KeyUp";
     }
  </script>
  <body onkeypress="getkey()" onkeydown="keydown()" onkeyup="keyup()">
     <header>
     <h1>Keyboard Event</h1>
     </header>
     <article>
     <section>
```

```
    <p id="myp">This page explains various Keyboard events</p>
    <p id="myp1">This page explains various Mouse down and Up Event</p>
    </section>
    </article>
    <footer>
    Developed by TNPT
    </footer>
  </body>
</html>
```

6. **Write about Form Element Property. Give an example.**

These properties are used to access the elements in a form and manipulate its contents. It can be used to get the value of an individual element in array format. It contains the following properties

- value: It is used to get the value present in the element
- name: It is used to get the name of the element
- id: It is used to get the ID of an element
- element name: This can be used to select a particular element present in the document

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Java Script</title>
    <meta charset="UTF-8">
  </head>
  <script type="text/javascript">
    function check()
    {
    var myforms = document.forms[0];
    var numelm = myforms.elements.length;
    for(i=0;i<numelm;i++)
    {
    elmid = myforms.elements[i].id;
    elmname = myforms.elements[i].name;
    elmval = myforms.elements[i].value;
    alert("ID: "+elmid+"\nName: "+elmname+"\nValue: "+elmval);
    }
    }
    function register()
    {
    var myforms = document.forms[0];
    var name, regno;
    name = myforms.elements.txtname.value;
    regno = myforms.elements.txtreg.value
    if(name=='' || regno=='')
    {
    alert("Please Enter All the Details");
    }
    else
    {
    alert("Registration Successful");
    myforms.reset();
    }
    }
  </script>
  <body>
    <h1>Form Elements</h1>
    <form id="IDform1">
    <h1>Registration Form</h1>
    <label>Name: </label>
    <input type="text" id="txtname" name="txtname"><br>
    <label>Reg No: </label>
    <input type="text" id="txtreg" name="txtreg"><br>
    <input type="button" value="Check" onclick="check()">&nbsp;&nbsp;
    <input type="button" value="Register" onclick="register()">
    </form>
  </body>
</html>
```