Spring Semester Examination 2017
Paro College of Education
Royal University of Bhutan
Paro: Bhutan

Module: ICT205 (Introduction to Scripting) **Programme :** B. Ed (S)   **Level:** II
Writing Time : Three Hours   **Full Marks:** 100

Instruction:

- Do not write for the first 15 minutes. This is to be spent in reading the questions. The question paper consists of two sections – A and B. You must read the questions carefully and ensure how many questions are required to answer from each section.
- Create a folder on the desktop with your student ID number as the folder name and save all your files inside this folder.
- Make sure to save your document frequently.

Section A
20 Questions-20 Marks

Instruction:

- This section consists of objectives type question. Answer all the questions. Each question has four responses. Choose the correct option.
- Save all the answer for this section in a word file

  e.g. Section - A_a : answer

Question 1

a) Which of the following type of variable takes precedence over other if names are same?

     A. global variable
     B. local variable
     C. immediate variable
     D. confined variable

b) Which of the following is not a legal JavaScript statement for accessing objects?

    A. document.images[1].src="exam.gif";
    B. document.myform.mytextbox.value = "myname";
    C. document.getElementByID["myID"].src="exam.gif";
    D. document.p[1]="text for my first paragraph";

c) The counter values of the given **for(var i= 1; i<= 5; i+=2),** loop are:

    A. 1 and 3
    B. 1, 3, and 5
    C. 5, 3, and 1
    D. 1, 2, 3, 4 and 5

d) Which built-in method combines the text of two strings and returns a new string?

    A. append()
    B. concat()
    C. attach()
    D. appendChild().

e) Which of the following is true regarding the continue statement in a "for loop"?

    A. continue transfers the control flow to the initialization statement of the for loop
    B. continue transfers the control flow to the conditional statement of the for loop
    C. continue transfers the control flow to the update statement of the for loop
    D. continue transfers the control flow to the statement just before the for loop

f) Which of the following Number Object Methods will round the number to the specified number of decimal?

    A. toRoundUp();
    B. toString();
    C. toPrecision();
    D. toFixed();

g) The ……………… method of an Array object adds and/ or removes elements from an array.

    A. reverse();
    B. shift();
    C. slice();
    D. splice();

h) What does the following code produce?

```
<script type="text/JavaScript">
    var num1=40;
    var num2=50;
    if(num1%(num2-num1)==0){
        document.write('Hello"+"<br>");
        document.write(num2-num1);
    }else {

        document.write('Hello Hello"+"<br>");
        document.write(num2-num1);

    }
</script>
```

    A. Hello 10
    B. HelloHello 10
    C. Hello 40
    D. Hello Hello 50

i) Which is the event that fires when the form element:`<button>`, `<input>`, `<label>`, `<select>`, `<textarea>`loses the focus?
    A. onFocus
    B. onBlur
    C. onClick
    D. ondblClick

j) What do you mean by **"this"** key word in JavaScript?
    A. It refers current object
    B. It refers previous object.
    C. It is a variable which contains value.
    D. None of the above.

k) Which machine actually executes the JavaScript?
    A. The web server
    B. The machine which is running a web browser
    C. JavaScript engine
    D. Both A and B above

l) Which of the following syntax is correct to refer an external script called "formValidation.js"?
    A. `<script href = "formValidation.js">`
    B. `<script source = "formValidation.js">`
    C. `<script name = "formValidation.js">`
    D. `<script src = "formValidation.js">`

m) Which attribute needs to be changed to make elements invisible?
    A. invisibility
    B. visible
    C. visibility
    D. invisible

n) What does value of false in the third parameter of the `addEventListener()` function indicate?
    A. Sets to event capturing
    B. Sets to event bubbling
    C. Sets event target
    D. All of the above

o) Which of the following statement is true about attaching a **play** method to an object called basketball?
    A. `basketball=function();`
    B. `basketball.prototype.play=function();`
    C. `play();`
    D. `function.play=prototype();`

p) Which of the following statement will return false?
    A. `(4>=4) && (5<=2)`
    B. `!(3<=1)`
    C. `("a"=="a") && ("c"!="d")`
    D. `(2<3)||(3<2)`

q) What does an **NaN()** function do?
    A. Return true if the argument is a string
    B. Return true if the argument is a number
    C. Return true if the argument is an integer
    D. Return true if the argument is a random number

r) Which of the following is the correct syntax to create the heading1 with JavaScript?

    A. `document.createElement("h1");`
    B. `document.createTextNode("h1");`
    C. `document.getElementById("h1");`
    D. `document.getElementByTagName("h1");`

s) ……………….. is a built – in JavaScript function which can be used to execute another function after a given time interval?

    A. `Timeout()`
    B. `timeInterval()`
    C. `setInterval()`
    D. `setTimeinterval()`

t) How many alert dialogs will the following JavaScript generate?

```
var x = "10";
function f(){
var x = "4";
alert(this.x);
function g(){
alert(x);
}
g();
}
f();
```

    A. 3
    B. 2
    C. 1
    D. 4

Section B

8 Questions – 8×10=80 Marks

Instruction:

- Answer all questions from this session
- Save all your section B answer as an html file with file name as shown below:
    - e.g. Section_B_2.html
- If you have external js file or css file, then it should be linked to the html file and save as shown below:
    - Section_B_2.js or Section_B_2.css

Question 2

a. Create a new array called birds containing names of 4 birds (e.g. Sparrow, Pigeon, Crane and Eagle).   [3]
b. Using any of the array method, set the element at the initial position of the array to the bird name "raven"?   [2]
c. Write a loop that prints out all of the elements in birds in the reverse order.   [4+1]
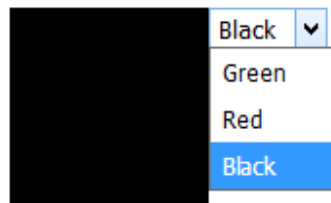
Question 3

Write JavaScript code to draw the shape as shown below: The figure should be in the following colour. (Top –green, Middle-red and Bottom-blue)   [1+2+2+2+2+1]

Question 4

Some snippets of HTML and CSS from a Web page is given below. Complete the HTML and JavaScript code so that the background color of the square changes in response to the selection made in the drop down list as shown below: [1+2+2+2+2+1]

Pick the color to change the color of a shape

```
<html>
<head>
<title>Select_example</title>
      <style>
      div#d2{
            width:150px;
            height:150px;
      float: left;
            border:1px black solid;
      }
      </style>
      <script type="text/javascript">
      function ………………{
            ……………………………
            …………………………………
            …………………………………
            …………………………………………
      }
      </script>
</head>
<body><hr>
<h3>Pick the color to change the bg color of a square</h3>
      ………………………………………………………………….
      <form>
      <select id="s1" onChange="changeColor()">
            <option> Green</option>
            <option> Red</option>
            <option> Black</option>
      </select>
      </form>
</body></html>
```

Question 5

Define a JavaScript function called `vowel()` that prompts user for a sentence and prints all the vowels and counts the number of vowels in the given sentence.   [1+3+3+2+1]

Question 6

This code is supposed to display the following output

          1.
          2.
          4.
          5.
          7.
          8.
          10.
          11.
"Long live our College!"

Identify the errors in the following program and suggest ways to correct them. [1+1+3+2+2+1]

```
<html>
    <head>
        <title>looping</title>
    </head>
<body>

    <script type="text/JavaScript">
    var i=1;
        while(i<7){
            i++;
        if(i!=4){
            break;
        }
        document.write(i);
        }
    </script>

</body></html>
```

Question 7

Design a digital timer that invokes time, after every 1000 milliseconds. The time should be in **hh:mm:ss** format as shown below: [1+3+3+2+1]

Time: 11:20:43

Question 8

Create an HTML file and insert two images inside it. Attach JavaScript code that would enlarge the image when you take your mouse over it and reduce to original size when you remove mouse from it. [2+2+4+2]

Question 9

Creating custom Object

    a. Create an object named **Quadrilateral** that has two properties named `length` and `width`. [2]
    b. Create function named `area()` that calculates the area of the quadrilateral. [2]
    c. Create another function named `perimeter()` that calculates the perimeter. [2]
    d. Add the function created in b and c (above) to the **Quadrilateral** object as its method [2]
    e. Create an instance of the **Quadrilateral** object and name it as **myQuao**. Send the parameter of 20 for the length parameter and 10 for the width. [2]