Spring Semester Examination 2018
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
One Question-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) The value stored in an uninitialized variable is ……………..

A. garbage
B. null
C. compost
D. its identifier

b) A counter keeps track of ………………..

    A. the number of times the machine cycles required by a segment of a program.
    B. the number of loop structures within the program.
    C. the number of times an event has occurred.
    D. the number of times software has been revised.

c) How many times will the following for loop be executed?

```
for(var a = 16; a >= 0; a-=3){

        ………statements……

}
```

    A. 15
    B. 6
    C. 7
    D. 16

d) What will be the output of the code below?

```
<Script type= "text/JavaScript">
    var trees = ["xyz", "XXX", "test", "sonam", "apple"];
    delete trees[3];
    document.write(trees.length);
<Script>
```

    A. 7
    B. 5
    C. 4
    D. 6

e) If par is the DOM object for a paragraph, what is the correct syntax to change the text within the paragraph?

    A. `par.firstChild.nodeValue= "New Text";`
    B. `"New Text"`
    C. `par.value="New Text";`
    D. `par.nodeValue="New Text";`

f) How do you call a function named "myFunction"?

    A. `call function myFunction;`
    B. `call myFunction();`
    C. `myFunction();`
    D. `Function();`

g) What must be created before your customized object's properties and methods can be used?

    A. Number for reference
    B. Create an array
    C. An instance of an object
    D. Object need to be set

h) Which is the correct syntax for creating an array named `taxRules` that contains five elements?

    A. `new Array(taxRules);`
    B. `Array(taxRules)+5;`
    C. `var taxRules=Array(5);`
    D. `var taxRules=new Array(5);`

i) What value does the `selectedIndex` property of the `select` object return if no option is selected?

    A. -1
    B. 0
    C. 1
    D. False

j) Which of the following variable declarations are valid?

    A. `var _copyrightYear=2018;`
    B. `var 2008CopyrightYear=2018;`
    C. `var $Copyright Year=2018;`
    D. `var copyrightyearχ=2018;`

k) Within a loop, what does the **break** statement do?

    A. Starts a loop over
    B. Crashes computer
    C. Escapes the loop entirely
    D. Crashes browser

l) The method or operator used to identify the array is?

    A. `isarrayType();`
    B. `==`
    C. `===`
    D. `Typeof`

m) What do `"3"` + `4` + `3` evaluate to?

    A. 37
    B. 10
    C. 343
    D. 73

n) How do `subString()` and `subStr()` differ?

    A. one is not a method of a string object.
    B. `subStr()` takes three arguments, `subString()` only two.
    C. only one accepts a desired string length as an argument.
    D. besides spelling, nothing.

o) You must declare a local variable………………

    A. with the local keyword.
    B. before a function.
    C. after a function.
    D. within the braces of a function definition.

p) Which built-in function can you use to determine whether a value is a number?

    A. `eval()`
    B. `isNaN()`
    C. `parseInt()`
    D. `parseFloat()`

q) Which statement is true about attaching a **play** method to an object called soccer?

    A. `soccer=function();`
    B. `soccer.prototype.play=function();`
    C. `play();`
    D. `function.play=prototype();`

r) What value you must use the `getElementsByTagName()` method?

    A. The id attribute of the element you want to retrieve
    B. The tag name of the elements you want to retrieve
    C. The index of the element in the elements`[]` array
    D. The name attribute of the elements you want to retrieve.

s) Which Number Object Method will round the number to the specified number of decimal?

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

t) Which is **NOT** a reserved word in JavaScript?

    A. Program
    B. Short
    C. Interface
    D. Throws

SECTION – B
One Question - 10 marks

Instruction:
- This section consists of 5 short answer type questions. Answer all the questions
- Save all the answer for this section in a word file

    e.g. section - B_a: answer

Question 2

a) Explain the difference between the `setTimeout()` and `setInterval()` methods. Which method is most often used for starting an animation code that executes repeatedly? [2]

b) What do the `parseInt("010")` statement return and why? [2]

c) Explain how the mod function (%) works. For example, what does the statement `x = y % 5` compute? [2]

d) What is function in JavaScript and why is it advisable to use function in one's program? [2]

e) What is the difference between parameter and argument in JavaScript? [2]

SECTION–C
Seven Questions - 70 marks

Instruction:
- There are seven questions in this section. Answer all questions from this section.
- Save all your section C answer as an html file with file name as shown below:
    - e.g. Section_C_3.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_C_3.js or Section_C_3.css

Question 3

Write a JavaScript Code that displays today's date in the format exactly given below. [2+2+3+3]

Date: Friday, 18th May, 2018.

Question 4

Create an object called **Circle** with two properties **radius** and **PI.** Set the value of **PI** to 3.14159. Add two methods to this object. [2+2+3+3]

        a. A method called **area** which asks user input and returns the area of a circle.

        b. Another method called **circum** which calculates the circumference of a circle.

Question 5

Write a JavaScript loop function that prints out the following output. [2+3+2+3]
1,1,1,2,2,4,4,4,5,5,5,7,7,7

Question 6

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

Question 7

Write HTML, CSS 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: [2+2+2+2+2]

Pick the color to change the background color of the square

Red ▾
Green
Red
Black

Question 8

Write a JavaScript program that asks user for any five positive numbers; stores them in an array and prints out the sum of those 5 numbers. [2+2+2+2+2]

Question 9

Below you will see some snippets of HTML and JavaScript from a Web page. Complete the HTML and JavaScript code so that it draws the shape shown below: [10]


```
<html>
 <head>
  <script type="text/JavaScript">
function draw() {
    var canvas=document.getElementById(………………);
    if(canvas.getContext){
      var pos=canvas.getContext('……………');
          pos. …………………………;
          pos.arc(75, 75, 50, 0, Math.PI*2,………………);
          pos. ……………………(110,75);
          pos.arc(75,………………, 35, 0, Math.PI, false);
          pos.moveTo(…………………,65);
          pos.arc(60, 65, 5, 0, Math.PI*2, true);
          pos.moveTo(95,65);
          pos.arc(……………, 65, 5, 0, Math.PI*2, true);
          pos. ……………………;
      }
    }
    </script>
 </head>
 <body onLoad=…………………>
    <canvas id="canvas" width="1000" height="1000"></canvas>
 </body>
</html>
```