Advanced JavaScript Assessment (Post training)

Max points: 40 **Max time: 45 minutes**

This assessment consists of two sections and a total of 23 questions.

Section 1 (15 questions)
Each of the following has exactly one correct answer. Choose the correct one. Assume all code runs in a browser environment.

1. What is the output for the code snippet below? **1 points**

```
console.log( 2 === “2” );
```

a) This results in a runtime error
b) NaN
c) true
d) false

2. What is the output for the code snippet below? **2 points**

```
var a = 1;
{
      var a = 2;
      console.log( a );
}
console.log( a );
```

a)
```
1
1
```
b)
```
2
2
```
c)
```
2
1
```
d)
```
1
2
```

3. What is the output for the code snippet below? **2 points**

```
var x = (function() {
      return 1;
}());
console.log( x() );
```

a) This results in a runtime error because x is not a function
b) This results in a runtime error the syntax for defining the function is incorrect
c) 1
d) None of the above

4. What is the output for the code snippet below? **2 points**

```
var obj = {
      greeting: ‘Good morning!’,
```

```
        greet: function() {
            setTimeout(function() {
                console.log( this.greeting );
            }, 0);
        }
    };
    obj.greet();
```

a) This results in a runtime error because this is not defined
b) Good morning
c) undefined
d) Prints nothing

5. What happens when the following code snippets runs? **2 points**

```
console.log( x );
var x = 1;
console.log( x );
```

a) The first console.log() call throws an error as x is not defined and script stops execution
b) The first console.log() prints undefined and the second prints 1
c) Both the first and second console.log() statements print 1
d) None of the above

6. What is the result of running the code snippet below? 2 **points**

```
function sumAsync( a, b ) {
    setTimeout(function() {
        return a + b;
    }, 1000);
}
console.log( sumAsync( 1, 2 ) );
```

a) It logs undefined
b) It logs 3 immediately when executed
c) It logs 3 one second after it is executed
d) None of the above

7. Fill in the blank in this code snippet that iterates through an array and gets the first odd number.

```
[ 1, 2, 3, 4, 5 ]._____ (function( item ) {
    return item % 2;
});
```

2 points

a) forEach
b) find
c) filter
d) every

8. What does the event object's preventDefault() method do? **1 point**

a) Prevents default action by browser for the event if one exists.
b) Prevents event object from being passed to handler
c) Prevents bubbling of events

9. Which of these returns a node when passed a CSS selector **1 point**
   a) querySelector()
   b) getElementById()
   c) getElementsByTagName()
   d) querySelectorAll()

10. Which property of a node represents the content of an HTML node? **1 point**
   a) innerHTML
   b) innerText
   c) innerNode
   d) value

11. Which of these is the object to use when we want to load another HTML page? **1 point**
   a) document
   b) location
   c) history
   d) navigator

12. How do we call the base class constructor function (Base) in ES5 (old syntax)? **2 points**
   a) super(arg1, arg2);
   b) Base.call(this, arg1, arg2);
   c) Base.apply this, arg1, arg2);
   d) super.apply(this, arg1, arg2);

13. Which is the best way to add a method fn() to an object that is constructed using a Person constructor? **2 points**
   a) Use this.fn = function() { … } within Person constructor
   b) Use Person.fn = function() { … } outside the Person constructor
   c) Use Person.prototype.fn = function() { … } outside the Person constructor
   d) Use Person.fn = function() { … } within the Person constructor

14. What value will the XMLHttpRequest object's readyState have when an Ajax request completes? **1 point**
   a) 0
   b) 1
   c) 2
   d) 3
   e) 4

15. Which of these is a new feature in the history object? **1 point**
   a) pushState()
   b) go()
   c) back()
   d) forward()

Section 2 (8 questions)

Each of the following may have multiple correct answers. Choose the correct one(s). Assume all code runs in a browser environment.

16. Which of these is a valid way to declare a function in JavaScript? **2 points**

a) `function sum(a, b) { return a + b; }`
b) `function sum(var a, var b) { return a + b; }`
c) `var sum = function(a, b) { return a + b; }`
d) `var sum = function(var a, var b) { return a + b; }`

17. Which of these declares an object correctly? **2 points**

a)
```
var obj = {
      a: 1,
      b: function() { return this.a; }
};
```
b)
```
var obj = {
      a: 1;
      b: function() { return this.a; };
};
```
c)
```
var obj = {
      a = 1,
      b = function() { return this.a; }
};
```
d)
```
var obj = {
      a = 1;
      b = function() { return this.a; };
};
```

18. Which of these values is falsy? **2 points**

a) null
b) undefined
c) “”
d) []
e) {}
f) “false”
g) 0

19. How do variables declared with let and var differ? **2 points**

a) In scope of variables
b) In rules regarding redeclaration
c) In rules regarding immutability (i.e. one of them cannot be modified once initialized)

20. Which of these evaluates to true when obj is an object created using object literal syntax? **3 points**

a) obj .__proto__ === Object.prototype
b) Object.getPrototypeOf(obj) === Object.prototype

c) Object.getPrototypeOf(obj) === Object.__proto__
d) obj.__proto__ === Object.__proto__

21. If x is a DOM node and is the first child of its parent, which of these accesses the next sibling of x? **2 points**
    a) x.nextSibling
    b) x.parentNode.childNodes[1]
    c) x.parentNode.childNodes[2]

22. Which of are possible scopes for a variable declared with the let keyword? **2 points**
    a) Statement-level scope
    b) Block-level scope
    c) Function scope
    d) Global scope

23. Which of these creates a variable called x with the value of property a of obj = { a: 1 }? **2 points**
    a) let { a.x } = obj;
    b) let { a:x } = obj;
    c) let x = obj.a;
    d) let { a { x } } = obj;