(Note: These items were drawn from the same item pool as the actual exam items, so they should give you some feel for the nature and format of items to expect on the actual exam. In comparison to the actual exam items some of these items are too easy, some are too hard, and some are less appropriate for other reasons. This sample exam is not intended to be balanced or to represent fair or comprehensive content coverage, but the actual exam IS intended to accomplish that. All of the text content that provided the basis for the required elements of the course assignments is potential exam material. You should find that the weight of the exam is skewed toward McDuffie chapters 1-10 & 12, but you should also expect some items from 11 (windows, not frames), 13, 14, and the appendices.

1. Which control type(s) allow(s) only one item in a group to be checked?
   a. more than one of the following
   b. INPUT TYPE = checkbox
   c. INPUT TYPE = radio
   d. INPUT TYPE = text

2. How would you access the element at index 5 in the array A?
   b. A{5}
   c. A(5)
   d. A

3. Which operator can be used on strings and numbers?
   a. +
   b. –
   c. *
   d. /

4. Which is a valid comment in JavaScript?
   a. more than one of the following
   b. // comment
   c. /* comment */
   d. ' comment

5. Which function or method converts a number to a string?
   a. convert()
   b. parseString()
   c. str()
   d. toString()

6. How many alert boxes will the following loop produce?
   for ( var Index = 0; Index <= 2; ++Index )
   alert( Index );
   a. 0
   b. 1
   c. 2
   d. 3
7. Problems I - V refer to the program segment below.
```javascript
var Max = 4, Answer = 10;     // At the start of the
var Value = new Array(4);     // script, assume that:
for (Loup = 0; Loup <= Max; ++Loup)  // Value[0] = 1
    Answer += Value[Loup];     // Value[1] = 2
}               // Value[2] = 3
alert( Answer );        // Value[3] = 4
```

I. Identify a numeric array.
   a. Answer
   b. Loup
   c. Max
   d. Value[]

II. In order for an error not to occur, how many elements, at least, must
    that array have?
   a. 0
   b. 4
   c. 5
   d. 15

III. What value of the variable Answer will be displayed at the end of the
     program?
    a. 0
    b. 10
    c. 15
    d. 25

IV. What variable serves as the loop index?
    a. Answer
    b. Loup
    c. Max
    d. Value[]

V. What variable serves as the array subscript?
    a. Answer
    b. Loup
    c. Max
    d. Value[]

8. A top-down approach to programming calls for
   I. Working from the general to the specific
   II. Postponing minor decisions
   III. A systematic plan
   IV. Immediate coding of the problem
   
   a. I
   b. IV
   c. I & III
   d. I, II, & III
   e. All of the above
9. Top-down programming facilitates
   I. implementing a complex problem in stages
   II. testing of individual modules
   III. readability
   IV. maintenance of the program

   a. I
   b. I & II
   c. II & III
   d. I, II, & III
   e. All of the above

10. You are required to write a program to find the average of the class grades on an examination. The best thing to do first is
   a. input the data
   b. add the grades
   c. ask for names
   d. write the program
   e. write an algorithm

11. A loop that averages grades greater than or equal to 60 is stated:
    `do { //body of loop } while ( Grade != 65 )`
    A better loop condition to accept the necessary grades is
    a. do { //body of loop } while ( Grade < 100 )
    b. do { //body of loop } while ( Grade > 60 )
    c. do { //body of loop } while ( Grade == 60 )
    d. do { //body of loop } while ( Grade >= 60 )
    e. None of the above

12. The last value displayed by the following program fragment is:
    `var Twos = 2;`
    `do {`
      `alert( Twos );`
      `Twos = Twos * 2;`
    `} while ( Twos < 100 );`

    a. 100
    b. 128
    c. 64
    d. 2
    e. none of the above

13. The last value assigned to Twos by the following program fragment is:
    `var Twos = 2;`
    `do {`
      `alert( Twos );`
      `Twos = Twos * 2;`
    `} while ( Twos < 100 );`

    a. 100
    b. 128
    c. 64
    d. 2
    e. none of the above
14. When several programmers are involved with one design, which of the following is likely to cause the most problems?
   a. modular programming  
   b. top-down design  
   c. bottom-up design  
   d. structured programming

15. Questions I - III are based upon the following JavaScript:
```html
<SCRIPT LANGUAGE="JavaScript">
//area A designates code within the SCRIPT tags, but outside all functions
function B(){
}
function C() {
}
function D() {
}
function E() {
B();
D();
}
E();
C();
E();
</SCRIPT>

I. A variable declared (using var) in function B and only in function B is accessible in
   a. B only  
   b. B & F  
   c. B & E  
   d. B, E, & A  
   e. All other parts of the code.

II. A variable declared (using var) only in A is accessible in
   a. No part of the code.  
   b. A only  
   c. C, E, & A  
   d. B, C, D, E, & A

III. Which describes the order in which the functions execute?
   a. E, C, E  
   b. E, B, D, C, E, B, D  
   c. B, C, D, E  
   d. E, C, E, B, C, D, E, B, D  
   e. E, B, D, C, E, B, D, B, C, D, E, B, D

16. A function that returns a value should be
   I. referenced in an expression  
   II. used alone as a statement  
   III. passed a value

   a. I only  
   b. II only  
   c. III only  
   d. I & II  
   e. I & III
17. Which of the following should not be added to the action of the "then" in the following program segment?
for ( var Index = 2; Index <= Limit; Index++ ) {
  if (myData[Index] < Max) {
    alert("FOUND");
  }
}
a. ++Index  
b. alert(myData[Index])  
c. --Max  
d. myData[Index] = 0  
e. Max = 100

18. Use the following HTML & JavaScript code to answer questions I-V:
<SCRIPT LANGUAGE="JavaScript">
var K = 0;

function Start() {
  var N = 2, Total = 0;
  Total = addUp(N);
  alert( Total );
  alert( N );
  alert( K );
  alert( J );
  alert( I );
}

function addUp(J) {
  var I = 0;
  var Sum = 0;
  K = 2 * J;
  for ( I = 1; I <= K; I++ )
    Sum = Sum + I;
  return Sum;
}

Start();
</SCRIPT>

I. The alert( Total ) statement will display
   a. 4  
   b. 10  
   c. 2  
   d. 0  
   e. 3

II. The alert( N ) statement will display
   a. 4  
   b. 2  
   c. 10  
   d. 1  
   e. 0

III. The alert( K ) statement will display
    a. 4  
    b. 2  
    c. 10  
    d. 1  
    e. no value
IV. The alert( J ) statement will display
a. 4  
b. 2  
c. 10  
d. 1  
e. no value

V. The alert( I ) statement will display
a. 4  
b. 2  
c. 10  
d. 1  
e. no value

19. The following loop
Do {
    Sum += Counter;
    ++Counter;
} while ( Counter < 100 )

I. never terminates
II. must execute at least once
III. terminates when Counter >= 100

a. I only  
b. II only  
c. III only  
d. II & III  
e. none of the above

20. Which of the following program segments will calculate the sum of integers from 1 to 100?

I. var Sum = 0;
   for (I = 1; I <= 100; ++I)
       Sum += I;

II. var Sum = 0;
    for (I = 100; I >= 1; --I)
        Sum += I;

III. var Sum = 0
     if ( I <= 100 ) {
         Sum += I;
     }

a. I only  
b. II only  
c. III only  
d. I & II  
e. II & III
21. Use this function to answer the following questions I-II.

```javascript
function Power(x, y) {
    var Product = 1;
    for (z = 1; z <= y; z++)
        Product = Product * x;
    return Product;
}
```

I. The base of the power function calculated in function `Power` is
a. 1
b. x
c. y
d. z
e. none of the above

II. The exponent in function `Power` is
a. x
b. y
c. z
d. Power
e. none of the above

22. Which of the following expressions evaluates to zero?

a. 3 % 2 - 2
b. 1 - 4 % 3
c. 6 % 3 - 1
d. 6 / 2 + 1
e. 2 + 6 % 2

23. Given a variable named `Numbers` and the following statements, in which the 0th element is not used,

```javascript
var Numbers = new Array(13);
Numbers[1] = 8;
for (var j = 2; j <= 13; ++j) {
    Numbers[j] = (((j - 1) * Numbers[j - 1]) / (j - 1));
}
```

What are the resulting contents of `Numbers`?

a. all 8s
b. 8, 16, 24, 32, etc.
c. 8, 0, 8, 0, 8, 0, 8, 0, etc.
d. 8, 64, 132, 264, etc.
JAVASCRIPT SAMPLE TEST ITEMS – KEY

1. c
2. a
3. a
4. a
5. d
6. d
7. I. d  II. c  III. d  IV. b  V. b
8. d
9. e
10. e
11. d
12. c
13. b
14. c
15. I. a  II. d  III. b
16. a
17. a
18. I. b  II. b  III. a  IV. e  V. e
19. d
20. d
21. I. b  II. b
22. b
23. a