Final Exam (50 Points) - Model (1)

Question 1 (5 Points): Choose the correct answer and mark it in your answer sheet.

```
1  ..... System;
2  namespace Calculator
3  {
4      class Program
5      {
6          static void Main()
7          {
8              Console.WriteLine("Enter the first operand: ");
9              int x = Convert.ToInt64(Console.ReadLine());
10             Console.WriteLine("Enter the operator ( * or / ): ");
11             char op = Convert.ToChar(Console.ReadLine());
12             Console.WriteLine("Enter the second operand: ");
13             int y = Convert.ToInt16(Console.ReadLine());
14             switch (op)
15             {
16                 case "*": Console.WriteLine("{0} {1} {2} = {3}", x, op, y, x * y); break;
17                 case '/': Console.WriteLine("{0} {1} {2} = {3}", x, op, y, x / y); break;
18                 default: Console.WriteLine("Invalid Operator"); break;
19             }
20         }
21     }
22 }
```

1. (1 point) The missing word in line 1 is .....
   (A) static (B) using (C) void (D) const
2. (1 point) There are syntax errors in .....
   (A) line 9 only (B) lines 16 only (C) lines 9 and 16 only (D) lines 9, 13, 16, and 17
3. (1 point) To correct the syntax errors in line 16, we need to replace `"*"` with .....
   (A) '*' (B) "*' (C) '*" (D) *
4. (1 point) If we run the program after correcting all errors, the output for (x = 5, op = +, y = 2) should be .....
   (A) 7 (B) 3 (C) 52 (D) "Invalid Operator"
5. (1 point) If we run the program after correcting all errors, the output for (x = 5, op = /, y = 2) should be .....
   (A) 2.5 (B) 1 (C) 2 (D) 0.5

Question 2 (10 Points): Choose the correct answer and mark it in your answer sheet.

6. (1 point) The source code can be converted into a computer program using .....
   (A) an operating system (B) a programming language (C) a programmer (D) a compiler
7. (1 point) A `class` can contain .....
   (A) only one method (B) one or more methods (C) only one namespace (D) one or more namespaces
8. (1 point) The `Console` class has a ..... method that can be used to output something to the screen.
   (A) writeline (B) writeLine (C) Write (D) write

9. (1 point) A data type specifies ..... of the variable.
   (A) the size and type (B) the size and value (C) only the type (D) only the value

10. (1 point) A variable of type `float` can be implicitly converted to a variable of type .....
    (A) int (B) double (C) long (D) char

11. (1 point) The statement `x**;` .....
    (A) increments x by 1 (B) multiplies x by 1 (C) multiplies x by itself (D) is invalid.

12. (1 point) If the current value of x is 4, then the value of x after executing `bool y = x == 5;` will be .....
    (A) 4 (B) 5 (C) true (D) false

13. (1 point) The ..... keyword cannot be used inside a `switch` statement.
    (A) case (B) break (C) continue (D) default

14. (1 point) A `do-while` statement executes its block .....
    (A) zero or more times (B) one or more times (C) exactly one time (D) more than one time

15. (1 point) An array can have .....
    (A) one dimension only (B) two dimensions only (C) three dimensions only (D) one or more dimensions

Question 3 (5 Points): choose the correct answer and mark it in your answer sheet.

```
1  using system;
2  namespace Loops
3  {
4      class Program
5      {
6          static ........ Main()
7          {
8              for (int i = 0, i < 3, i+)
9              {
10                 for (int j = 0, j < 3, j++)
11                 {
12                     Console.write("{0} ", i * 2 + i * 2);
13                 }
14             }
15         }
16     }
17 }
```

16. (1 point) The missing word in line 6 is .....
    (A) start (B) using (C) void (D) const

17. (1 point) There are syntax errors in .....
    (A) line 1 only (B) lines 1 and 8 only (C) lines 1, 8 and 12 only (D) lines 1, 8, 10, and 12

18. (1 point) To correct the syntax errors in line 1, we need to replace `using system;` with .....
    (A) `using System` (B) `Using system;` (C) `Using System;` (D) `using System;`

19. (1 point) If we run the program after correcting all errors, the output should be .....
    (A) 0 0 0 4 4 4 8 8 8 (B) 4 4 4 8 8 8 12 12 12 (C) 8 8 8 12 12 12 16 16 16 (D) 0 0 0 1 1 1 2 2 2

20. (1 point) If we correct all errors and replace line 12 with `Console.Write("0 ", i * j);`, the output will be .....
    (A) 0 1 4 0 1 4 0 1 4 (B) 0 1 2 1 2 3 2 3 4 (C) 0 0 0 0 1 2 0 2 4 (D) 0 0 0 1 1 1 4 4 4

Question 4 (15 Points): Choose the correct answer and mark it in your answer sheet.

21. (1 point) A parameter can be passed to a method either by value or by .....
    (A) constant (B) variable (C) function (D) reference

22. (1 point) The first element in a two-dimensional array is at index .....
    (A) 0, 0 (B) 1, 1 (C) 0, 1 (D) 1, 0

23. (1 point) If we create an array using `int[] x = {9, 12, 7, 13, 5};`, the last index in that array is .....
    (A) 3 (B) 4 (C) 5 (D) 6

24. (1 point) The statement ..... defines a one-dimensional array that can hold 5 integers.
    (A) int[ ] x = new int[5]; (B) int x = new int[5]; (C) int[x] = new int[5]; (D) int[ ] x = int[5];

25. (1 point) The **Convert.ToSingle** method returns a value of type .....
    (A) int (B) long (C) float (D) double

26. (1 point) The statement ..... increases the value of the variable x by 3.
    (A) x + 3; (B) x =+ 3; (C) x += 3; (D) x ++ 3;

27. (1 point) What is the value of the variable x after executing the following statements?

```
1  double y = 5.9;
2  int x = (int)y;
```

    (A) 5 (B) 6 (C) 9 (D) 5.9

28. (1 point) What is the output of the following code snippet?

```
1  Console.WriteLine((7 / 14) + ", " + !(true || false));
```

    (A) 0.5, True (B) 0.5, False (C) 0, True (D) 0, False

29. (1 point) What is the output of the following code snippet?

```
1  Console.WriteLine((5 + 3) + ", " + ("5" + "3"));
```

    (A) 8, 8 (B) 53, 53 (C) 8, 53 (D) 53, 8

30. (1 point) What is the output of the following code snippet?

```
1  Console.WriteLine("\\" + (5 >= 5));
```

    (A) \True (B) \\True (C) \False (D) \\False

31. (1 point) What is the output of the following code snippet?

```
1  int x = 5, y = 3;
2  if (!(x >= y)) Console.WriteLine(x < y);
3  else Console.WriteLine(x >= y);
```

    (A) 5 < 3 (B) 5 >= 3 (C) True (D) False

32. (1 point) What is the output of the following code snippet?

```
1  int a = 15, b = 10, c = 100;
2  if (b > c) Console.WriteLine(a);
3  else break;
```

    (A) 15 (B) Nothing (C) Error (D) break

33. (1 point) What is the output of the following code snippet?

```
int i = 0, j = 25 % 25;
if (i == j) Console.Write("IF");
else Console.Write("ELSE");
Console.Write(" MAIN");
```

(A) IF (B) ELSE (C) IF MAIN (D) ELSE MAIN

34. (1 point) What is the return type of the following method?

```
static ..... Add(int x, float y)
{
    double sum = x + y;
    Console.WriteLine(sum);
}
```

(A) int (B) float (C) double (D) void

35. (1 point) What is the output of the following code snippet?

```
int[] scores = {80, 85, 90};
Console.WriteLine(scores[3]);
```

(A) 80 (B) 85 (C) 90 (D) Error

Question 5 (15 Points): Mark True or False in your answer sheet.

1. (1 point) A program is a collection of instructions to perform a specific task.
2. (1 point) A **namespace** can contain at most one **class**.
3. (1 point) The **Write** and **WriteLine** methods can be used to output something.
4. (1 point) A variable of type **char** can be implicitly converted to a variable of type **int**.
5. (1 point) The statement **x+;** increases the value of the variable **x** by 1.
6. (1 point) The value of **y** after executing the statement **bool y = x!;** is true if **x** is false.
7. (1 point) A **continue** statement inside a **switch** statement moves execution to the next case.
8. (1 point) The **default** keyword is optional in a **switch** statement.
9. (1 point) The **while** loop loops as long as the specified condition is true.
10. (1 point) The **do-while** loop executes its code block at least once.
11. (1 point) Multiple methods can have the same name with different number of parameters.
12. (1 point) Methods can have default parameter values as well as named parameters.
13. (1 point) Array indexes start with 1, where [1] is the first element and [2] is the second element.
14. (1 point) Arrays can have more than one dimension.
15. (1 point) Two methods in the same class with the same signature are called overloaded methods.

Best Wishes
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