



TABLE OF SPECIFICATIONS

Topics / Content		Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. of Item	Score
I	Introduction to Computers	4 (1,2,7,8)						4	4
II	Introduction to Programming	9 (3-5,10,15,16,19, 25,29)	3 (43,48,53)					12	15
III	Introduction to C++	11 (11-14, 17, 18, 20- 22,24,26)	8 (44-47,49,50,52,56)		1 (41)			20	29
IV	Variables	3 (23,27,30)	7 (51,54,55,57-60)	1 (61)	6 (42, 63-67)			17	34
V	Selection Structures	3 (6,9,28)		1 (62)	10 (31-40)			14	28
<b>Total Number of Items</b>		30	18	2	17			67	
<b>Total Score</b>		30	36	10	34			110	
		%	27.27%	32.73%	9.09%	30.91%		100%	

Summary	No. of Points
Test I	30
Test II - A	20
Test II - B	40
Test III -	20
<b>Total Score</b>	<b>110</b>

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 Date:



Name: \_\_\_\_\_

Crs. /Yr. /Section: \_\_\_\_\_ Score: \_\_\_\_\_

### CC 112 – PROGRAMMING 1

*Midterm Examination*

October 17 - 19, 2024

**I. FILL IN THE BLANKS.** Fill in the blanks for each of the following statements. Write your answer in the space provided before the number. (30 pts)

1. \_\_\_\_\_ directs the computer to process the program instructions one after another.
2. Instruction written in 0s and 1s is called \_\_\_\_\_.
3. \_\_\_\_\_ refers to a statement that evaluates to a value.
4. \_\_\_\_\_ is a set of instructions or operations.
5. \_\_\_\_\_ is considered the first programmer.
6. \_\_\_\_\_ it makes a decision and then takes an appropriate action based on that decision.
7. \_\_\_\_\_ are used for running scripts, such as those used to generate content for dynamic websites.
8. An assembly program requires an \_\_\_\_\_ to convert instructions into machine code.
9. \_\_\_\_\_ directs the computer to repeat one or more instructions until one condition is met.
10. \_\_\_\_\_ deals with the meaning of the programming language.
11. C++ systems consist of a program development environment, the language, and the C++ \_\_\_\_\_.
12. The \_\_\_\_\_ links the object code with the libraries.
13. \_\_\_\_\_ it is used to print double-quote characters.
14. Every C++ program begins execution at the function \_\_\_\_\_.
15. \_\_\_\_\_ is the process of designing, writing, testing, debugging, and maintaining the source code of computer programs.
16. \_\_\_\_\_ is a sequence of precise instructions that leads to a solution.
17. Blank lines, space characters, and tabs are known as \_\_\_\_\_.
18. The \_\_\_\_\_ type of data stores character value.
19. The \_\_\_\_\_ translates the C++ program into machine language.
20. The parentheses after the main indicate that the main is a program building block called \_\_\_\_\_.
21. The semicolon in every statement is known as \_\_\_\_\_.
22. In the output statement, the << operator is referred to as the \_\_\_\_\_.
23. \_\_\_\_\_ is a reserved memory location to store values.
24. In a C++ system, a(n) \_\_\_\_\_ program executes before the compiler's translation phase begins.
25. \_\_\_\_\_ instructs the computer to perform an action.
26. \_\_\_\_\_ is a word in a code that C++ reserves for a specific use.
27. \_\_\_\_\_ is the quantity that cannot be changed during program execution.
28. \_\_\_\_\_ used to compare more than one condition.
29. \_\_\_\_\_ is an artificial and informal language that helps programmers develop algorithms.
30. \_\_\_\_\_ refers to assigning a value to a variable at the time of declaration.

## II. TRUE or FALSE

- A. Evaluate the expressions below. Write **TRUE** if the final result is TRUE otherwise, write the word **FALSE**. (2 points each)

Initial value for:     $a = 10;$      $b = 6;$      $c = 8;$

- \_\_\_\_\_ 31.  $((a > c) \parallel (b < c)) \&\& (b != c)$
- \_\_\_\_\_ 32.  $(a == 10) \&\& ((a > 8) \&\& (c < 10))$
- \_\_\_\_\_ 33.  $(c == 3 \parallel a != 10) \&\& (a >= c)$
- \_\_\_\_\_ 34.  $(a >= b \parallel a != 10) \&\& (b >= c)$
- \_\_\_\_\_ 35.  $((a >= c) \&\& (b != c)) \parallel ((c == 8) \neq (a > b))$
- \_\_\_\_\_ 36.  $((b == 10) \&\& ((c == 6) \parallel (b == 6)))$
- \_\_\_\_\_ 37.  $((c == 8) \neq (b <= 15)) \parallel (c == 10)$
- \_\_\_\_\_ 38.  $(10 >= c) \parallel ((b <= a) \&\& (5 <= a))$
- \_\_\_\_\_ 39.  $(c != b) \&\& ((a >= b) \parallel (c != b))$
- \_\_\_\_\_ 40.  $((\text{true} \parallel \text{false}) \&\& (\text{true} \parallel \text{true})) \&\& \text{true}$

- B. State whether the following statements are TRUE or FALSE. Write **TRUE** if the statement is correct, otherwise, write the word **FALSE**. (2 pts. Each)

- \_\_\_\_\_ 41. Compiling the program is the 3<sup>rd</sup> step in writing a program.
- \_\_\_\_\_ 42. The variable 10minutes, #exam, 2Chances is a valid variable.
- \_\_\_\_\_ 43. A flowchart is the graphical representation of an algorithm.
- \_\_\_\_\_ 44. The loader puts the program in memory.
- \_\_\_\_\_ 45. /\* \*/ indicates a single comment in a program.
- \_\_\_\_\_ 46. Every program should begin with a comment that describes the purpose of the program.
- \_\_\_\_\_ 47. Black space characters are ignored by the compiler.
- \_\_\_\_\_ 48. A bits is the smallest data item in a computer.
- \_\_\_\_\_ 49. Every C++ statement ends with a semicolon
- \_\_\_\_\_ 50. The backslash (\) is called an escape character.
- \_\_\_\_\_ 51. A good identifier should be descriptive and long.
- \_\_\_\_\_ 52. cin and cout is an example of user-defined identifiers.
- \_\_\_\_\_ 53. The first phase of C++ programming language is the preprocessing.
- \_\_\_\_\_ 54. Character values are given in the double quotation.
- \_\_\_\_\_ 55. The exponent is always a real number.
- \_\_\_\_\_ 56. C++ keyword can be used as a variable name.
- \_\_\_\_\_ 57. int, float, and double are real data type.
- \_\_\_\_\_ 58. Variables can be initialized during the declaration.
- \_\_\_\_\_ 59. The literal constant is a value that is typed directly in a program.
- \_\_\_\_\_ 60. The modulus (%) operator is designed to be used in integer operands.

## III. GUESS ME. Write the possible output of the program or find the value of x.

61. 5 points

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int a = 12, b = 8, x = 5, y = 8;
7     b = a--;
8     y = --x;
9
10    cout << "a = " << a << endl << "b = " << b << endl;
11    cout << "x = " << x << endl << "y = " << y << endl;
12 }
```

(2 points each)

- 63.  $x = 20 / 5 + 6 / 2 - 1;$
- 64.  $x = 8 \% 8 + 2 * 2 - 8 / 2;$
- 65.  $x = 5 * 8 - 19 + 4 * 16 / 4 + 8;$
- 66.  $x = 100.0 + 15.0 * 80.0 / 20.0;$
- 67.  $x = 36 * 3 + 80 / 4;$

```
#include <iostream>
using namespace std;

int main()
{
    int grade = 80;

    switch (grade)
    {
        case 100:
            cout << "Your numerical rating: 1:00";
            break;
        case 99:
            cout << "Your numerical rating: 1:00";
            break;
        default:
            cout << "Please enter another number";
    }
}
```

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