

**CSM - Algorithm and
Programming**

T004

Thursday, 31/10/2013

8:30 – 11:30 AM

WORKFORCE DEVELOPMENT AUTHORITY



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**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2013;
TECHNICAL AND PROFESSIONAL TRADES**

EXAM TITLE: Algorithm and Programming
OPTION: Computer Science and Management (CSM)
DURATION: 3hours

INSTRUCTIONS:

This paper contains **three (3)** Sections:

Section I: Eleven **(11)** questions, all **compulsory**. **55marks**

Section II: Five **(5)** questions choose any **three (3)**. **30marks**

Section III: Three **(3)** questions choose any **one (1)**. **15marks**

Section I: Attempt all 11 questions 55marks

- 01. Define a Pseudocode. **2marks**
- 02. Visual Basic is event-driven. What does it mean? **6marks**
- 03. What are the rules used in naming variables in visual basic applications? **8marks**
- 04. What happens if you declare a variable with the same name in two or more place? **2marks**
- 05. List out the characteristics of FOP. **8marks**
- 06. Define the objects. **3marks**
- 07. Define operator overloading. **2marks**
- 08. What are the characteristics of procedure oriented programming language? **12marks**
- 09. What are the 2 types of OOP? **2marks**
- 10. Why do we need the preprocessor directive # include? **6marks**
- 11. What are data members and member functions? **4marks**

↳ it type of class which declare

Section II: Choose and Answer any three questions. 30marks

- 12. Write an algorithm to find the sum and product of two given numbers. **10marks**
- 13. In programming languages we have two concepts; functions and methods. Functions are defined in structural language and methods are defined in object oriented language. Establish others differences between them by completing the table below: **10marks**

Point of difference	Functions	Methods
Independence		
Definition		
Call		
Description		

14. Answer the questions below concerning the following fragment of code.

```
int n;
cout << "Enter an integer: ";
cin >> n;
if (n < 10)
    cout << "less than 10" << endl;
else if (n > 5)
    cout << "greater than 5" << endl;
else
    cout << "not interesting" << endl;
```

- a. What will be the output of the fragment above if the interactive user enters the integer value 0? **2.5marks**
- b. What will be the output of the fragment above if the interactive user enters the integer value 15? **2.5marks**
- c. What will be the output of the fragment above if the interactive user enters the integer value 7? **2.5marks**
- d. What values for n will cause the output of the fragment above to be "not interesting"? **2.5marks**

15. Give the description of VB Color Value below: **10marks**

Value	Value Description
0x0	
0xFF	
0xFF00	
0xFFFF	
0xFF0000	
0xFF00FF	
0xFFFF00	
0xFFFFFFFF	

Var, a, b, sum, as integer
sum ← 0
sum ← a + b
*sum ← a * b*

16. By Using FOR LOOP Statement, write a C program to display the sum of even numbers. **10marks**

cout << "a" << endl;
cout << "b" << endl;
cout << "c" << endl;
cout << "d" << endl;
cout << "e" << endl;
cout << "f" << endl;
cout << "g" << endl;
cout << "h" << endl;
cout << "i" << endl;
cout << "j" << endl;
cout << "k" << endl;
cout << "l" << endl;
cout << "m" << endl;
cout << "n" << endl;
cout << "o" << endl;
cout << "p" << endl;
cout << "q" << endl;
cout << "r" << endl;
cout << "s" << endl;
cout << "t" << endl;
cout << "u" << endl;
cout << "v" << endl;
cout << "w" << endl;
cout << "x" << endl;
cout << "y" << endl;
cout << "z" << endl;
cout << "0" << endl;
cout << "1" << endl;
cout << "2" << endl;
cout << "3" << endl;
cout << "4" << endl;
cout << "5" << endl;
cout << "6" << endl;
cout << "7" << endl;
cout << "8" << endl;
cout << "9" << endl;
cout << "A" << endl;
cout << "B" << endl;
cout << "C" << endl;
cout << "D" << endl;
cout << "E" << endl;
cout << "F" << endl;
cout << "G" << endl;
cout << "H" << endl;
cout << "I" << endl;
cout << "J" << endl;
cout << "K" << endl;
cout << "L" << endl;
cout << "M" << endl;
cout << "N" << endl;
cout << "O" << endl;
cout << "P" << endl;
cout << "Q" << endl;
cout << "R" << endl;
cout << "S" << endl;
cout << "T" << endl;
cout << "U" << endl;
cout << "V" << endl;
cout << "W" << endl;
cout << "X" << endl;
cout << "Y" << endl;
cout << "Z" << endl;
cout << "a" << endl;
cout << "b" << endl;
cout << "c" << endl;
cout << "d" << endl;
cout << "e" << endl;
cout << "f" << endl;
cout << "g" << endl;
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cout << "v" << endl;
cout << "w" << endl;
cout << "x" << endl;
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cout << "z" << endl;
cout << "0" << endl;
cout << "1" << endl;
cout << "2" << endl;
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cout << "5" << endl;
cout << "6" << endl;
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cout << "9" << endl;
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cout << "R" << endl;
cout << "S" << endl;
cout << "T" << endl;
cout << "U" << endl;
cout << "V" << endl;
cout << "W" << endl;
cout << "X" << endl;
cout << "Y" << endl;
cout << "Z" << endl;

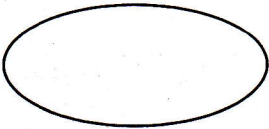

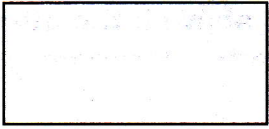
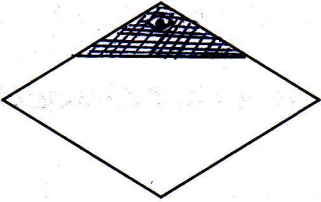
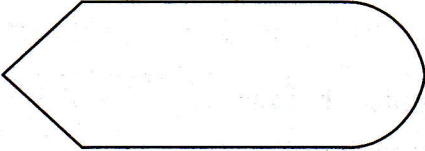

Section III: Choose and Answer any one (1) question. 15marks

17. What are the operators available in C++?

15marks

18. Different symbols are used to draw each type of flowchart. Give the name and explain the role of each flowchart symbol below:

15marks

Name	Symbol	Use in Flowchart
1.		
2.		
3.		
4.		
6.		
7.		

19. Give and explain the properties of Data Control of Visual Basic.

15marks