Benha University Faculty of Engineering (at Shoubra) Industrial Engineering Department Level "0" Fall Semester Attempt **all** the following questions:	**Final Exam** **Subject:** Computer Programming– CPE 101 **Date:** Friday 28/12/2018 **Duration:** 2 hours **№ of Questions:** 5 in 2 page(s) **Total Mark:** 40

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Question 1: (12 **Marks**)

A. **(8 Marks)** Determine the output for each of the following code snippets (assuming successful compilation):

a) (2 Mark)	b) (2 Mark)

cout<< "Welcome \t to \n";
cout<< "Programming \n !! ";
 	
Answer:
Welcome   to
Programming
!!
	int x=2, L;
	// declaration
	L = x%5 * 2;
	cout<< "Z="<<L;
	
	Answer:
	Z= 4

c) (2 Mark)	d) (2 Mark)

int z =3, x=2;
switch (z){
case 2:
cout<<"Shoubra"; break;
case 3:
cout<<"Benha"; break;
default:
cout<<"University";
}
 	
Answer:
Benha
	for (int i =2; i < = 14; i+= 6)
	cout << i << endl;
	
	Answer:
	2
	8
	14

B. (4 Marks) Write **_for loops_** that will print each of the following outputs:

a) (2 Mark)	b) (2 Mark)
9 7 5 3 **Answer:** for (int i=9; i>=3; i-=2) cout<< i;	Welcome Welcome Welcome **Answer:** for (int i=1; i<=3; i++) cout<< "Welcome \t";

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Question 2: (7 Marks)

1. The purpose of using a loop is to………….
a. make decision **c. repeat operation(s) many times**
b. declare variables d. declare constants

2. Which of the following is not a comparison operator in C++ language?
a.< **c.=**
b.<= d.= =

3. Which of the following is not a standard data type?
a. int **c. date**
b. bool d. char

4. Below ……………………… is an example of a logical operator.
a. | | c. + +
b. ! **d. a and b**

5. Which from following operators have a higher precedence?
a. + c. *
b. ( ) d. All of them are equal

6. Which of the following is a correct declaration to a constant:
a. constant float Y = 3.14; **c. None of them**
b .# define float X = 3.14; d. float X 3.14;

7. The if ... else statement can be replaced by which operator?
a. Bitwise operator **c. Conditional operator**
b. Multiplicative operator d. None of the mentioned

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Question 3: (7 Marks)

Book Club Points

A Bookseller has a book club that awards points to its customers based on the number of books purchased each month. The points are awarded as follows:

- If a customer purchases 0 books, he earns 0 points.
- If a customer purchases 1 book, he earns 5 points.
- If a customer purchases 2 books, he earns 15 points.
- If a customer purchases 3 or more books, he earns 30 points.

Write a complete C++ program that asks the user to enter the number of books that he or she has purchased this month and displays the number of points awarded.

Answer:

```
#include <iostream>
int main( ) {
int book, points;
cout<<"Please enter the number of books";
cin>>book;
if (book==0)
points = 0;
else if (book == 1)
points = 5;
else if (book == 2)
points = 15;
else if (book >= 3)
points = 30;
cout << "The number of point awarded:" << points;
return 0;
}
```

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Question 4:   (7 **Marks**)

Write a complete C++ program that repeats printing a specific character according to a specific number. The program should ask the user to enter a character and a number. The program should then display the character many times as the number.

[For example, if the user enters "$" and "4", the program should display "$$$$"].

Answer:

```
#include <iostream>
int main( ) {
int N;
char ch;
cout<<"Enter the number:";
cin>>N;
cout<<"Enter the character";
cin>>ch;
for (int i = 1; i<=N; i++)
        cout<<ch;
        return 0;
}
```

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Question 5: (7 Marks)

Write a complete C++ program that accepts a character grade (A, B, C or F) from the user and prints its equivalent integer GPA (4, 3, 2 and 0 respectively) using *__switch case__*.

Answer:

```
#include <iostream>
int main( ) {

cout << "Please enter your grade:" << endl ;
cin >> Grade ;

switch (Grade){
case 'A':
cout << "your GPA is 4";
break;
case 'B':
cout << "your GPA is 3";
break;
case 'C':
cout << "your GPA is 2";
break;
case 'F':
cout << "your GPA is 0";
break;
default:
cout << "Wrong grade, you must enter a grade in the range from 0 to 100";
}
      return 0;
}
```

Good Luck
Dr. Shady Yehia Elmashad