

B 11. Among the following branching statement which one is causes a jump out of these constructs, and hence terminates them?

- A. continue; B. break; C. return; D. goto

D 12. From the statement given below, which one is provides that a way of choosing between a set of alternatives, based on the value of an expression.

- A. if B. else C. do-while D. switch

D 13. What will be the output of the following code?

```
int k = 0;
while(k <= 10)
{
    k++;
}
cout << k << endl;
```

- A. Results in an infinite loop
B. 10
C. 11
D. Numbers 0 to 9 will be displayed.

D 14. Assume that the purpose of the program is to add all the odd numbers between 0 and 100. Therefore, what is the expected code to be written in the blanks space?

```
int n;
int sum = 0;
for (.....; .....; ..... )
{
    sum += n;
}
```

- A. n = 1; n + 2; n <= 100
B. n = 1; n <= 100; n + 2

- C. n = 1; n <= 100; n += 2
D. n = 1; n <= 100; n++ 2

A 15. What will be the output of the following code?

```
int x = 5;
int y = 4;
x *= y + 2;
cout << x << endl;
```

- b) How many rows does t have? _____
- c) How many columns does t have? _____
- d) How many elements does t have? _____
- e) Write the names of all the elements in the second row of t? _____
- f) Write the names of all the elements in the third column of t. _____

12. Identify and correct the error(s) in each of the following: (4 pts)

- a)

```
if ( age >= 65 );
cout<<"Age is greater than or equal to 65"<<endl;
else
cout<<"Age is less than 65 <<endl";
```
- b)

```
if ( age >= 65 )
cout<<"Age is greater than or equal to 65"<<endl;
else;
cout<<"Age is less than 65 <<endl";
```
- c)

```
While ( x <= 100 )
total += x;
++x;
```
- d)

```
while ( y > 0 ) {
cout<< y <<endl;
++y;
}
```

Output

13. What is the output of the following program? (5 pts)

```
#include<iostream>
using namespace std;
int main() {
for(int i=1;i<=5;i++) {
for(int j=1;j<=5;j++)
{cout<<I;}
cout<<endl;}}
```

Part I Say True or False & choose (1 point each).

1. ☐ A switch statement doesn't allow a variable to be tested for equality against a list of values.
2. ☐ The expression of switch statement may be of type integer or character type.
3. ☐ Which one of the following correctly declares an array?
a) `int array[10];`
b) `int array;`
c) `array{10};`
d) `array array{10};`
4. ☐ A pointer is
a. The address of a variable.
b. An indication of the variable to be accessed next.
c. A variable for storing addresses.
d. The data type of an address variable.
5. ☐ What is the index of the last element of an array of 9 elements?
a) 9
b) 8
c) 0
d) 10

Part II Fill the blank with the correct answer (1 point each).

6. Write the syntax of while loop & do while

loop _____

- Part I: Write capital "T" if the statement is correct and capital "F" if incorrect
- ☒ T 1. The length of a string does not include the terminating null character.
 - ☒ F 2. Any array of character can be converted into string type in C++.
 - ☒ F 3. It is possible to create two-dimensional array without specifying size.
 - ☒ F 4. Any of the three expressions in a for loop may not be empty.
 - ☒ F 5. Assignment statements are used to divert the execution path to another part of the program.

Part II: Choose the correct letter among the following alternatives (15pts).

- ☒ D 1. Which of the following is/are true about an Array?
 - An array stores the same datatype elements.
 - Array stores different datatype elements.
 - The elements of an array are ordered by the index
 - Both A and C
- ☒ D 2. Which of the following is not true about String?
 - The length of a string does include the terminating null character
 - String is a sequence of character
 - The null character indicates the end of the string
 - None
- ☒ C 3. ____ is used for specifying alternate paths of execution, depending on the outcome of a logical condition?
 - Conditional statement
 - Looping statement
 - Branching Statement
 - None
- ☒ D 4. If n is the length of an array, what is the value of last index?
 - n+1
 - n
 - index 0
 - D

2.

```
#include<iostream>
using namespace std;
1. int main()
2. {
3.     int i;
4.     int n = 10;
5.     for(i=0;i<n-2;i++)
6.     {
7.         cout<<i;
8.     }
9.     cout<<endl;
10.    for(i=1;i<n;i++)
11.    {
12.        if(i!=(n-4))
13.        {
14.            cout<<i;
15.        }
16.    }
17. }
```

Part V: Write C++ programs for the following questions (10pts)

1. Write a C++ that checks either an integer number is even or odd. (2pts)
2. Write a program to display the day name as the user enters a number from 1 to 7. Hint use switch statement (1-Monday,2-Tuesday ...) 2pts.
3. Write a C++ program that accepts your firstname, secondName, and idNumber, and then displays this information on screen (2pts)
4. Write a C++ program that computes multiplication of the first 10 positive integer numbers. Hint: use for or while loops. (2pts).
5. Write a program is to display 1 up to 10 horizontally (i.e. separated by tab '\t' as well as vertically use the endl '\n' or endl (2pts)

5. Which one of the following is true about branching statement?
- A. It is an error to use the continue statement outside a loop.
 - B. It is an error to use the break statement outside a loop.
 - C. The return statement enables a function to return a value to its caller.
 - D. All of the Above

6. Which one of the following is not true about an array declaration?
- A. `int arrayName[];`
 - B. `string arrayName[];`
 - C. `char arrayName[10];`
 - D. None

7. Which one of the following is correct about array initialization?
- A. `int array1 [] = {2,4,6,7,8,9};`
 - B. `int array2 [][] = {2,4,6,7,8,9};`
 - C. `int array3 [5] = {2,4,6,7,8,9};`
 - D. `int array4 [2][2] = {2,4,6,7,8,9};`
 - E. all of the above

8. Which one of the following is not true about the array `int arrayName [] = {1,3,5,7,9,11,17};`

- A. arrayName has 7 elements
- B. size of arrayName is 7
- C. it has syntax error
- D. all of the above
- E. none

9. Among the following control statement which one is odd?

- A. `break;`
- B. `continue;`
- C. `goto`
- D. `while`

10. Which one of the following is not correct initialization of `int arrayName [5];`
- A. `{11,12,13,14,15};`
 - B. `{11,12,13};`
 - C. `{11,12,13,14,15,16};`
 - D. B and C
 - E. all of the above