

9. Convert the following "for()" loop into a "while()" loop:

```
for (int i=1; i <= n; i++)  
    cout << i*i << " ";
```

```
int i=1;  
while (i <= n)  
{ cout << i*i << " " ;  
  i++; }
```

10. Write and ³run a program that prints the sum, difference, product, quotient and remainder of two integers that are input interactively.

14/10

A.2 Fill in the Blanks:

1. The keyword that moves the cursor to next line on screen is \n ;
2. To find the size of a certain data type in bytes, we use sizeof Operator.
3. Write an example for a preprocessor directive < iostream >
4. The loop statement that allows the loop code to be executed least once is do-while
5. Write a declaration statement for an integer variable, named ab and initialize it to the value 7. int ab = 7 ;

SECTION - B

(15 Marks)

Answer all of the 5 questions.
Each Question carries 3 marks.

B.1 If m, n are of integer type, and m=30 and n=11 then evaluate z and w:

$$z = ++m - n-- = \underline{20}$$

$$31 - 11$$

$$\begin{array}{r} 2 \\ 11 \overline{) 30} \\ \underline{22} \\ 8 \end{array}$$

$$w = m/n = \underline{2}$$

B.2 If the following programming statement executes, what it prints on screen

Cout << "today is" << " 26" << " Dec" << " 2016" << endl ;

Output : Today is, 26 Dec, 2016

B.3 Construct a logical expression to represent the following condition :

n is between 1 and 13 and is odd.

Expression : $n > 0 \&\& n < 13 \&\& n \% 2 == 1$

1 (b) Fill in the Blanks:

(5 Marks)

1. The symbol << is used as output Operator.
2. The "True" and "False" values are stored by boolean data type.
3. The temporary allocation of memory with name and data type is known as variable.
4. The Iteration (Looping) is a term used for repetition the execution.
5. In Multiple selections in programming we can use switch instead of "if...else if...else" statement.

SECTION - B (5 x 3 = 15 MARKS)

Answer any FIVE Questions. Each Question carries THREE Marks.

2. Please check three (3) errors and write in the right side box for the following program -

```
#include<iostream>
#include<conio.h>
using name space std;
void main()
{
    for(int i=1;i<=10;i++)
        cout<<i*7<<endl;
    getch();
}
```

Ans.2. Finding Errors

1. using namespace std;
2. {
3. for(int i=1; i<=10; i++)

3. Write the output of the following program in the given box below.

```
int main()
{ // prints the results of arithmetic operators
    int m=18; n=3;
    cout << "Their sum is " << (m / n) << endl;
    cout << "Their difference is " << (m * n) << endl;
    cout << "Their product is " << (m - n) << endl;
    cout << "Their quotient is " << (m + n) << endl;
    getch();
}
```

OUTPUT

Their sum is → 321
 Their difference is → 15
 Their product is → 54
 Their quotient is → 6

Q4. Find 4 errors. Write the program after correction in the box. (4 Marks)

```
#include <iostream>
using namespace std;
int main ()
{   int n;
    // print " n = 22 ":
    n = 22;
    cout >> "n = " << n << endl;
}
```

```
#include <iostream>
using namespace std;
int main() {
    int n;
    // print "n = 22":
    n = 22;
    cout << "n = " << n << endl;
}
```

SECTION - C

Answer the Question.

(3 Marks)

5. Write C++ Program that print the sum, difference, product, quotient, and the remainder of two integers that are inputted respectively from keyboard.

```
#include <iostream>
using namespace std;
int main() { // Print results of Arithmetic operator:
    int m, n;
    cout << "Enter two integer" << endl;
    cin >> m >> n;
    cout << "The integer are" << m << "and" << n << endl;
    cout << "Their sum is" << (m+n) << endl;
    cout << "Their difference is" << (m-n) << endl;
    cout << "Their product is" << (m*n) << endl;
    cout << "Their quotient is" << (m/n) << endl;
    cout << "Their remainder is" << (m%n) << endl;
}
```

system pause;

SECTION - A (15 MARKS)

Answer ALL Questions. Each Question carries ONE Mark.

1 (a) Choose the correct answers:

(10 Marks)

1. The symbols $=>$, $<=$, $=$, $<$, $>$ are known as _____ Operators.

- a) Composite
- ☒ b) Comparison
- c) Arithmetic
- d) Assignment

2. Array is a collection of variables having same name and _____.

- a) Function
- ☒ b) Array
- c) Data Type
- d) Loop

3. Which symbols are to be used to include "comments" inside the program?

- a) $<>$
- ☒ b) $//$
- c) (...)
- d) (())

4. The keyword "- - a" is known as _____ operator.

- a) Pre-Increment
- b) Post Increment
- c) Post Decrement
- ☒ d) Pre-Decrement

5. One of the loop terminators is _____.

- ☒ a) break;
- b) rand(0)
- c) sqrt()
- d) main()

6. Functions are called _____ of the main() function.

- a) Inside
- b) Start
- ☒ c) Outside
- d) End

7. The correctly declared variable is _____.

- a) xyz;
- ☒ b) int a;
- c) double float;
- d) unsigned short a = 7;

8. if $x=5$, $y=5$ and $z = x/y$. The $z =$ _____.

- a) 25
- ☒ b) 1
- c) 15
- d) 10

9. One of the correctly declared Single Dimension Array variable is _____.

- a) abc[][];
- ☒ b) int xyz[3];
- d) int [][];
- d) char [5][5];

10. The words "case" and "default" are used within _____ statement.

- a) if()...else if()...else
- b) while(){...}
- ☒ c) switch(){...}
- d) do{...}while();

SECTION - A (15 MARKS)

Answer ALL Questions. Each Question carries ONE Mark.

A.1 Choose the correct answer:

- The declaration of a variable is a temporary memory allocation with of that variable .
 a) Type b) Name and Type c) Size d) Name
- Iteration means
 a) Declaration b) Repetition c) Selection d) a & b
- Which one of the following is correct data type keyword
a) char b) signed int c) Float d) boolean f) integer
- The symbol ($\geq$) is known as operator.
 a) Arithmetic b) Assignment c) Comparison d) Composite
- Which of the followings is correct declaration of integer array named "x"
 a) Int x[6]; b) int x(6); c) int x[6]; d) int x;
- How many main() function can be written in a C++ program
 a) at least one b) only one c) two d) any number
- The data types do not accept the negative values/numbers.
 a) unsigned int b) int c) double float; d) char xyz;
- To designate a block of statements (Code block) in C++, we use Brackets.
 a) [...] b) { .. } c) (..) d) " .. "
- The correct declared variable
a) double Rxz; b) bool; c) int +23abc; d) char xabc;
- In the #include <iostream>, the header "iostream" is required for
 a) cout b) cin c) both a and b d) none of them
- In a programming language, the word that is already defined and reserved for unique purpose is called
 a) identifier b) keyword c) function d) variable
- The symbol used to insert comments in C++ program is
 a) "///" b) "||" c) "/* */" d) a and c
- How many different types can the elements of an array have
 a) one b) two c) three at most d) any number
- Which of the following is the equality operator (test equality)
 a) += b) == c) != d) =
- Which of the following is a composite assignment operator
 a) *= b) == c) != d) =

4. Write down the Syntax of "for()" loop statement.

Ans. _____

For (initialization; condition; increment)

{

// Coding

}

5. Fill in the blanks of the following program of Cube Function -

```
#include<iostream>
#include <conio.h>
using namespace std;
int Cube (int);
void main(){
    int a;
    cout<<"Enter any Number :";
    cin>>a;
    cout<<"The Cube is :"<<cube(a);
    getch();
}
int Cube_(int n){
    return n*n*n;
}
```

6. Recognize the following Operators and write their names.

a) >= Comparison

b) || Compound

c) ++ increment

7. Declare the following variables -

a) Boolean "flag" = bool flag;

b) Unsigned Integer "var" = unsigned var;

c) Float Single Dimension Array "Arr" with the size of 5 elements = float Arr[5]

SECTION - A (15 MARKS)

Answer **ALL** Questions. Each Question carries **ONE** Mark.

A.1 Choose the correct answer:

- The declaration of a variable is a temporary memory allocation with of that variable. (15 Marks)

a) Type **(b) Name and Type** c) Size d) Name
- Iteration means

a) Declaration **(b) Repetition** c) Selection d) a & b
- Which one of the following is correct data type keyword

(a) char b) signed int c) Float d) boolean f) integer
- The symbol ($\geq$) is known as operator.

a) Arithmetic b) Assignment **(c) Comparison** d) Composite
- Which of the followings is correct declaration of integer array named "x"

a) Int x[6]; b) int x(6); c) int x[6]; d) int x;
- How many main() function can be written in a C++ program

a) at least one **(b) only one** c) two d) any number
- The data types do not accept the negative values/numbers.

(a) unsigned int b) int c) double float; d) char xyz;
- To designate a block of statements (Code block) in C++, we use Brackets.

a) [..] b) {..} c) (..) d) " .. "
- The correct declared variable

(a) double Rxz; b) bool; c) int +23abc; d) char 5abc;
- In the #include <iostream>, the header "iostream" is required for

a) cout b) cin **(c) both a and b** d) none of them
- In a programming language, the word that is already defined and reserved for unique purpose is called

a) identifier **(b) keyword** c) function d) variable
- The symbol used to insert comments in C++ program is

a) "///" b) "||" c) "/* */" **(d) a and c**
- How many different types can the elements of an array have

a) one b) two c) three at most d) any number
- Which of the following is the equality operator (test equality)

a) += b) == c) != d) =
- Which of the following is a composite assignment operator

(a) *= b) == c) != d) =

SECTION - A (15 MARKS)

Answer **ALL** Questions. Each Question carries **ONE** Mark.

Define

+=

-=

*=

/=

%=

+=

-=

*=

/=

%=

+=

-=

*=

/=

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/=

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/=

%=

+=

-=

*=

/=

%=

A.1 Choose the correct answer:

- The declaration of a variable is a temporary memory allocation with of that variable.
 - Type
 - Name and Type
 - Size
 - Name
- Iteration means
 - Declaration
 - Repetition
 - Selection
 - a & b
- Which one of the following is correct data type keyword
 - char
 - signed int
 - Float
 - boolean
 - integer
- The symbol ($\geq$) is known as operator.
 - Arithmetic
 - Assignment
 - Comparison
 - Composite
- Which of the followings is correct declaration of integer array named "x"
 - Int x[6];
 - int x(6);
 - int x[6];
 - int x;
- How many main() function can be written in a C++ program
 - at least one
 - only one
 - two
 - any number
- The data types do not accept the negative values/numbers.
 - unsigned int
 - int
 - double float;
 - char xyz;
- To designate a block of statements (Code block) in C++, we use Brackets.
 - [..]
 - {..}
 - (..)
 - ".."
- The correct declared variable
 - double Rxz;
 - bool;
 - int +23abc;
 - char 5abc;
- In the #include <iostream>, the header "iostream" is required for
 - cout
 - cin
 - both a and b
 - none of them
- In a programming language, the word that is already defined and reserved for unique purpose is called
 - identifier
 - keyword
 - function
 - variable
- The symbol used to insert comments in C++ program is
 - "/"
 - "//"
 - "/ * */"
 - a and c
- How many different types can the elements of an array have
 - one
 - two
 - three at most
 - any number
- Which of the following is the equality operator (test equality)
 - +=
 - ==
 - !=
 - =
- Which of the following is a composite assignment operator
 - *=
 - ==
 - !=
 - =

SECTION - A (6 x ½ = 3 Marks)
Answer ALL Questions. Each Question carries HALF Mark.

1 (a) Choose the correct answer:

(3 Marks)

(i) Conditions such as $n \% d$ and $x \geq y$ can be combined to form compound conditions. This is done using the *logical operators* -----

- (a) && (and), || (or)
- (b) && (and), || (or), and ! (not).
- (c) Both
- (d) None

(ii) A `exit(0)` statement is used to go out from the-----.

- (a) loop
- (b) program
- (c) both
- (d) none.

(iii) Iteration statements are also called -----because of their cyclic nature.

- (a) repeating
- (b) loops
- (c) cycling
- (d) None

(iv) A selection statement can be used within another selection statement. This is called ----- statements.

- (a) nesting statements
- (b) block statement
- (c) loop statement
- (d) All the above

(v) The----- statement can be used instead of the **else if** construct to implement a sequence of parallel alternatives

- (a) Nested
- (b) Looping
- (c) switch
- (d) All

(vi) One advantage of using a -----statement inside a loop is that it causes the loop to terminate immediately, without having to finish executing the remaining statements in the loop block.

- (a) continue
- (b) `exit(0)`
- (c) break
- (d) None

SECTION - A (4 x 1/2 = 2 Marks)

Answer any **FOUR** Questions. Each Question carries **HALF** Mark.

1 (b) Fill in the Blanks:

- (i) There are two kinds of Keywords: reserved words and standard identifiers.
- (ii) There are five (<, >, <=, >=, ==) comparison operators in C++.
- (iii) A do-while loop will always iterate at least once, regardless of the value of its control condition.
- (iv) A Block Statement is a sequence of statements enclosed by { }.

SECTION - B (4 x 1 1/2 = 6 Marks)

Answer any **Four** Questions. Each Question carries **ONE & HALF** Marks.

2. Short answer questions:

- (a) Write the **output** of the following program.

```
#include <iostream>
using namespace std;
#include <conio.h>
int main()
{ int M,N;
  M=10;
  N=20;
  int X=(M<N ? M : N );
  cout<< "\n Result=" << X;
  getch();
  return(0);
}
```

Ans :

Result = 10 < 20

- (b) What are the difference between **break** and **continue** statement.

Ans:

Break: it help to go out of the loop.
is combine
is go to the loop again and again.
returning breakmant the statement

3- Break go out side of the loop without finish execute statement.

- (c) The following program is written by using for loop. Rewrite the same program by using while loop?

```
#include <iostream>
using namespace std;
#include <conio.h>
int main()
{
    int P=10;
    for(int I=1; I<10; I++)
        cout << "\n Result=" << I;
    getch();
    return(0);
}
```

result = 1 2 3 4 5 6 7 8 9 10

at the back of Page 10

Ans

```
#include <iostream>
using namespace std;
#include <conio.h>
int main()
{
    int P=10;
    cout << "Result=" << P;
    while (P>0)
    {
        int I=1, P=10;
        cout << "Result=" << P;
        P--;
    }
    getch();
    return(0);
}
```

- (d) Write the output of the following program.

```
#include <iostream>
using namespace std;
#include <conio.h>
int main()
{
    int Count=10;
    cout << " VALUES ARE : ";
    do
    {
        cout << " " << Count--;
    } while (Count>0);
    getch();
    return(0);
}
```

Ans():

VALUES ARE: 10
10 9 8 7 6 5 4 3 2 1

- (e) Fill up the truth table of the following with the value True(T)/False(F).

P	Q	P && !Q	!P Q
T	T	F	T
T	F	F	T
F	T	T	F
F	F	F	T

P && !Q

0	1	0
0	0	0
1	1	0
1	0	0

SECTION - C (4 x 1 = 4 Marks)

Answer any ONE Question. Each Question carries FOUR Marks.

3. Write the program

- Write a program in C++ that to display the **Summation of ODD** numbers from 1 to n.
- Write a program in C++ to display **Maximum** from a sequence of input numbers.

Ans ()

```
#include <iostream>
using namespace std;
#include <conio.h>
```

```
int main
```

```
{ int n, i = 1;
```

```
cout << "Enter a Positive integer: ";
```

```
if (n % 2 == 1) or if (n == +2)
```

```
cout << "a ODD number is: ";
```

```
else cout << "a even number is: ";
```

```
}
```

(n % 2 == 1) ←
ODD

n == +2

n = any number

(b) ~~int main()~~

~~int main()~~

with condition operator

~~{ int n1, n2, n3; }~~

~~{ int n1, n2, n3; }~~

~~cout << "Enter a Positive integer: ";~~

~~cout << "Enter a Positive integer: ";~~

~~int main()~~

~~cin >> n1 >> n2 >> n3;~~

~~{ int n1, n2, n3;~~

~~if (n2 == max)~~

~~cout << "Enter a Positive integer: ";~~

~~cin >> n1 >> n2 >> n3;~~

int max = n3;

if (n1 > n3) max = n1;

if (n2 > n3) max = n2;

else cout << "maximum is" << n3 << endl;

```
}
```

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int main()

```
{ int n1, n2;
```

n1 = 5;

n2 = 10;

int x = (n2 > n1 ? n2 : n1);

cout << "Result: ";

```
}
```

maximum