

Q. 1 A. Select the most appropriate option and rewrite the statement.**[4M]**

1. In flowchart, Diamond shape box is used for _____.
a. Decision making b. Specific purpose c. Process d. None of these.
2. Which of the following is an insertion Operator in C++?
a. >> b. << c. < d. >
3. Which of the following is used to terminate a C++ statement?
a) ; b) (c)] d) :
4. Which of the following data type uses 2 bytes in memory to store data?
a) int b) long c) char d) float

B. Attempt ANY TWO of the following.**[6M]**

1. State whether the following statements are true or false
a) % Operator cannot be used on float in C++.
b) ++ is a binary operator.
c) The statement a=b stores the value of variable b in variable a.
2. Define: Operator Associativity. Explain it with an example.
3. Write an Algorithm to read marks of a student in three subjects. The algorithm must calculate and print the total marks and percentage obtained by the student.

Q. 2 A Identify the errors in the following codes, and write the correct form. (ANY TWO)**[6M]**

- 1)

```
#include<iostream.h>
#include<conio.h>
VOID main()
{
    Int a;
    cout<<"Enter value of a";
    cin>>a
}
```
- 2)

```
#include<iostream.h>
#include<conio.h>
void main(
{
    clrscr{ };
    cout<<"hello world";
}
```
- 3)

```
#include<iostream.h>
#include<conio.h>
Void main()
{
    float a=1.2, b
    a + 2.2 = b;
    cout<<a;
}
```

B. Attempt ANY ONE of the following.**[4M]**

1. Explain Program structure in C++ with an example.
2. Write any four features of an Algorithm.

Q.3 A. Attempt ANY TWO of the following.**[6M]**

1. Draw a flowchart to read a integer value from the user. The flowchart must calculate and print the sum of square and cube of the given integer.
2. Write a C++ statement for the following:
 - a) $d=a^2+2ab+b^2$
 - b) $e=b^2-4ac/2a$
 - c) $p=2(l+w)$
3. Explain the following terms with respect to C++.
 - a. Binary Operator
 - b. Operand
 - c. Variable.

B. Attempt ANY ONE of the following.**[4M]**

1. Explain declaration and initialization of a variable with example.
2.
 - a) What is constant? Explain with Example.
 - b) Mention any two header files used in C++.

Q 4 A. Attempt ANY TWO of the following.**[6M]**

1. What is keyword? Write any 4 valid keyword used in C++.
2. Write the rules for naming of variable in C++.
3. What is an operator? Explain Arithmetic operators used in C++.

B. Attempt ANY ONE of the following.**[4M]**

1. Mention any 4 basic data types used in C++ along with size in bytes they occupy in memory.
2.
 - a) What will be the output of following code?

```
int n1=50, n2=4, q, r;  
q = n1/n2;  
r=n1-(q*n2)  
cout<<"The quotient and remainder are : "<<q<<" "<r
```
 - b) What will be the value of variables r and m1, if `int a=5,b=6;`
 - i. `r=++a + b--;`
 - ii. `m1=++a*7;`

Q 5. Attempt ANY TWO of the following.**[10M]**

1. Write a Program in C++ to read two integer values from the user and store it in variable say 'a' and 'b'. The program must swap the values stored in these variables with using third variable. The program must also print values before and after swapping with a suitable message..
 2. Write a program in C++ to read Principle amount(p), Rate of interest (r) and Time period (n) from the user. The program must find and print with a suitable message the simple interest [Note: $si=prn/100$]
 3. Write a program in C++ to read a three digit number from the user. The program must calculate and print sum of all digits present in that number.
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