Important Short Questions

Q2. Give short answers of the following questions

Q1. Define pointers in C++.

Ans. Pointers are powerful features of C++ that differentiates it from other programming languages. With the help of pointer C++ gives users the power to manipulate the data in the computer's memory directly.

Q2. What is the main advantage of pointer?

Ans. the main advantage of pointer is it can save memory and run faster because it does not have to duplicate the data

Q3. Define pointer variable.

Ans. Pointer variable is a variable that points to a specific address in the memory pointed by another variable

Q4. Write down the purpose of pointer variable.

Ans. Pointer variable holds the address of variable. In memory, every variable has an address assigned to it by the compiler and if a programmer wants to access that address, another variable called pointer is needed

Q5. Which symbol is used to declare a pointer?

Ans. for the declaration of pointer an asterisk (*) symbol is used.

Q6. Define address operator.

Ans. As pointers are the variables which holds the addresses of other variables therefore while assigning addresses to them a programmer needs a special type of operator called reference or address operator that is denoted by ampersand symbol. This provides address of a memory location.

Q7. Define dereference operator

Ans. if we want to store the value of the variables through the pointer then we need a special type of operator called reference operator denoted by asterisk (*).

Q8. Briefly describe the declaration of pointer.

Ans: The declaration of pointer is simple and is similar to the declaration of a regular variable with a minor difference of the use of an asterisk (*) symbol between the data type and the variable name.

Q9. State the general format to declare a pointer

Ans: The general format to declare a pointer is given below

Date type *nameVariable:

Q10. How many ways are there to place the asterisk in a program?

Ans: there are three ways to place the asterisk. These are:

1. Placing next to the data type
2. The variable name
3. In the middle

Q11. What is meant by pointer initialization?

Ans: Assigning values to the pointers at declaration time is called pointer initialization.

Q12. Define null pointer.

Ans: Sometimes we need to initialize a pointer to zero. Such pointers are called null pointers and they do not point to anything. Null pointers can be defined by assigning address 0 to them.

Q13. What is the use of null pointer?

Ans: The use of null pointers is mostly done in dynamic memory allocation.

Q14. Write a C++ program to demonstrate the concept of pointers

Ans:

```
#include<iostream.h>
#include<conio.h>
Void main( )
{
Clrscr( ):
Int num=20:
Int val:
Int *iptr:
Iptr=&num:
```

```
Val=*iptr;
Cout < < "Statements:\n";
Cout < < "\tint num=20:\n\tint val:\n\tint*ptr:";
Cout < < "\n\tiptr=&num;\n\tval=*iptr\n\n";
Cout < <"Output\n";
Cout < <"\tnum=: < < "\n\tval=" < <val;
Getch( );
}
```

Q15. Write a C++ program by using pointers to print the odd and even number as given below

1	7
2	9
3	11
8	13
10	15

Ans:

```
#include<iostream.h>
#include<conio.h>
Void fun (int, int=);
Void main ( )
{
Clrscr ( );
Int arr[5]={2,4,6,8,10};
```

```
Int i, b=5,
For (i=0, i<5; ++i)
{
Fun(arr[i], &b);
Cout < < arr [i]< <"\t"< < b < < "\n";
}
Getch( )
}
Void fun(int x, int y)
{
X=*(y)+2;
}
```

Q16. Write a C++ program to demonstrate pointer declaration and initialization.

Ans. Program

```
#include <iostream>
Using namespace std;
Int main ( )
{
Int number=88;          //Declare an int variable & assign an initial value
Int*pNumber;    //Declare a pointer variable pointing to an int (or int pointer)
pNumber=&number;   //assign the address of the variable number to pointer
pNumber
```

```
cout<<pNumber<<end1;    //Print content of pNumber (0*22ccf0)
cout<<&Number<<end1;    //Print address of number (0*22ccf0)
cout<<*pNumber<<end1;   //Print value pointed to by pNumber (88)
cout<<number<<end1;     //Print value of number (88)
pNumber=99,             //Re-assign value of pointed to by pNumber
cout<<pNumber<<end1;    //Print content of pNumber (0*22ccf0)
cout<<&number<<end1;    //Print address of number (0*22ccf0)
cout<<*pNumber<<end1;   //Print value pointed to by pNumber (99)
cout<<number<<end1;     //Print value of number (99)
//The value of number changes via pointer Print the address of pointer variable
pNumber (0*22ccf0)
Cout<<&pNumber<<end1;   //
}
```