1. **What is Numeric Constant? Name the four types of Numeric constant.**
   Numeric Constants are numeric values which may or may not have decimal point. There are some rules which have to be followed in case of defining numeric constant. It must have atleast one digit and there should not be any comma or space within numeric constant. It can be positive or negative.
   Four types:-
   a) Integer constant
   b) Floating point constant
   c) Octal constant
   d) Hexadecimal constant

2. **What is a variable?**
   A variable is any entity that can take on different values. Anything that can vary can be considered a variable. For instance, age can be considered a variable because age can take different values for different people or for the same person at different times. Similarly, country can be considered a variable because a person's country can be assigned a value.

3. **Explain the use of the For Loop.**
   The FOR statement is very useful looping construct. In C, FOR loop is the most commonly used looping construct which offers an initialization part, an expression evaluation for terminating loop, and a part to prepare for the next iteration of the loop. This means that the code inside the loop is not executed if condition is false in the beginning itself.
4. **What is a class? What are the two parts of a class?**
   A class is a method to bind the data and its associated functions together. It allows the data and functions to be hidden, if necessary, from external use. A class specification has two parts:-
   a) Class Declaration: The class declaration defines the type and scope of its members.
   b) Class function declaration: the class function declaration is similar to a "struct" declaration. The keyword class defines that what follows is an abstract data of type class name. The body of a class is enclosed within braces and terminated by a semicolon.
5. **What is the use of comma Operator?**
   The comma operator is used to string together several expressions. The expression on the right side becomes the value of the total comma separated expression. This will be clearer with the following output:

```
#include<stdio.h>
Void main ()
{
Int a,b;        /*variable declaration */
```

A= (b=5, b+2); /*variable get assigned */
Print ("\n a is %d and b is %d", a, b); / if the test returns true */
}

6. What is an array?

An array is a group of elements, all of the same type and size and having the same name. any individual's element is accessed with the help of the name followed by the location, called subscript, usually given within the brackets. An array is a group of variables of same data types. The data types can be integer, Float and Character etc.

An array holds more than one variables of the same data type. If we need to declare some 10 variables of the same data type then we need 10 different variable name which should be meaningful as mentioned.

7. What are the advantages of arrays?

Advantages of arrays:

a) An array holds more than one variable of the same data type. If we need to declare some 10 variables of the same data type then we needs 10 different variables names, which should be meaningful. If we declare an array of size 10 then it can hold 10 values and all of them can be accessed through the same name.
b) Whenever we declare variables, they are store randomly in memory. We have no way of knowing where they are stored. If an array is declared then they will be stored in order.

8. What are pointers?

Pointer is a special feature included in C language which makes C a very powerful programming language. It is a special type of variable which contains the address of another variable. If one variable containing the address of another variable, the first variable is said to be pointer to the second variable. Pointer can point to variables of other fundamental data type variables like int, char or double or data collections like arrays and structures.

9. What is a symbolic constant?

If we want to use some unique values for several times then we may symbolic constant. A symbolic constant is a unique identifier that substitute for a sequence of characters. Symbolic constant may represent a numeric constant, a character constant or a string constant. It could be written in uppercase or lowercase.

10. What is a function?

Afuntion groups a number of program statements into a unit and give it a name.This unit can then be invoked from other parts of the program.

Used of functions aims at providing aid in the conceptual organization of a program.Dividing a program into function is one of the major principles of structured

programming. Secondly ,used of functions also reduced the program size.Any sequence of instructions that appears in a program more than once is a candidate for bein made into a function is executed various times in the course of the program.

11. How will you define an object?

Objects are the basic run-time entities in an object oriented system. They may also represent user defined data such as vectors, time and lists. Objects are variable of type 'class'. Once a class has been defined, we can create any number of objects belonging to that class. Each object is associated with the data of type class with which they are created. Each object contains data and code to manipulate the data. Objects can interact without having to know details of each other's code or data.

Declaration of an object is similar to that of a variable of any basic type. The necessary memory space is allocated to an object at this stage. It is to be noted that class specification, like a structure, provides only a template and does not create any memory space for the objects.

12. Explain the history of C programming Language and its advantages.

The C language was developed at Bell Laboratories (AT & T) in the early 1970s by Dennis M. Ritchie. The need behind the invention of C was a high level language which would manage the I/O device allocates its storage and schedules the running of other programs.

Before C, there was a language called BCPL (Basic Combined Programming Language), which was the most popular language at that time. Ken Thompson, another Bell Laboratories system engineer dubbed the BCPL into B language. After sometime when the language was modified and improved to its present state it was named as C. fortunately B and C are also in alphabetical order. The first C which was developed by Dennis Richie is currently known as K&RC. In 1978, C became the most popular programming language.

In recognition of C's growing use the ANSI (America National Standard Institute) has establish a committee in 1993, called C programming committee X3III. This committee cleaned C's house of quirks, conflicts and ambiguities and added some selected features, based on the suggestion which they received during the evaluation period.

13. What is pointer?

Pointer is a special feature included in C language which makes C a very powerful programming language. It is a special type of variable which contains the address of another variable. If one variable containing the address of another variable, the first variable is said to be pointer to the second variable. Consider the following example:

```
Int a=300 /* suppose a is stored in memory at 2000 location */
Int*p;      /* suppose p is stored in memory at 3000 location */
P=&a;       /* now p stores the address of variable a i.e. 2000 */
```

Pointers can point to variable of other fundamental data type's variables like int, char or double or data collection like arrays and structures.

14. Explain about local, global and external variables.

Local variable: These variables are declares in the function definition. We can't use these variables outside the function.

Example:
```
void main()
{
        Int a,b;
        ……
}
```

Global variable: These variables are declared outside from the 'main ()'. We can use these variables anywhere in the program.

Example:
```
int x,y;
Main ()
```

15. What are the features of C?

C is a very popular programming language since its development till date. It is just because of its distinct features which makes it greater than other languages. After C, there are lots of programming languages which were developed, but no one of them has enough features to completely replace C. some of the most advanced features which are supported by C are as follows:

1. General purpose programming language.
2. Structured programming language.
3. Standardized programming language.
4. System in dependent
5. Detailed data manipulation
6. Powerful data definition method.