QBASIC

1) **What is function? List the types of function in QBASIC?**
   ➔ Function is ready made expression or the collection of program codes used to perform any particular task quickly and effectively.

      In QBASIC, functions are broadly classified into two types. They are:
      a) Library function
      b) User-defined functions.

2) **Differentiate between library functions and user defined functions?**
   ➔ The differentiate between library functions and user defined function are:

Library Function	User defined function
a. They are pre-defined or built-in function by QBASIC.	a. They are declared and defined by users.
b. They are common and standard to all the users.	B. They are customized to individual user.
c. Example: Left$, ABS, SINE, Tan, Cosine etc….	C. Example: function sum (a,b)

3) **Define modular programming in QBASIC?**
   ➔ The process of breaking a large and complex program into small manageable task and use them independently is called modular programming.

4) **Write the advantage of modular programming?**
   ➔ The advantage of modular programming are as follow:
   a. Program modules can be tested and debugged independently.
   b. Each module can be used in different places, which reduces program codes.
   c. Single module can be used in different places, which reduces program code.
   d. Complex program can be divided into smaller blocks.

5) **Define main module and sub module in modular programming?**
   ➔ Main module:
      Main module is controlling part of modular programming in which program entry and exit takes place and also calls the different sub modules.

      Sub module:
      Sub module is a small manageable part of modular program used for specific purpose that is controlled by main module.

6) **What do you mean by procedure? List the type of procedures used in QBASIC programming?**
   ➔ Procedure also know as mini-program is an isolated part of procedural programming technique used for specific purpose.
   There are two types of procedure:
   I)   Sub procedure
   II)   Function procedure

7) **List any two feature/advantage of procedure?**
   ➔ The two features/advantage of procedure are:
   i)   Procedure makes the program shorter.
   ii)   Procedure is useful for group and team work.

8) **What is sub procedure? Which statement is used to create sub procedure?**
   ➔ Sub procedure also known as sub program is a collection of program codes that performs specific task and can be sued many times in the modular approach.

   SUB……END function SUB statement is used to create sub procedure.

9) **What is sub procedure? Which statement is used to create sub procedure?**
   ➔ Function procedure is a block of statement codes that performs specific task and return a value whenever it is called.

   Function….END FUNCTION statement is used to create function procedure.

10) **Differentiate between Sub…END SUB and function……END function statement or sub procedure and function procedure?**
   ➔ The difference between function and sub procedure is as follows:

Sub procedure	Function
a) This statement does not return value.	a) This statement returns a single value.
b) It is called by CALL statement.	B) It can be called by expression or PRINT statement.
c) Printing is mainly done in Sub module.	C) Printing is mainly done in Main module.

11) **What do you mean by recursion?**
   ➔ A sub program or module that can call itself is know as recursion.

12) Differentiate between local variable and global variable?
➔ The differentiate between local variable and global variable are:

Local variable	Global variable
1. The variable which is declared inside the module is called local variable.	1. The variable, which is declared at the declaration level or main module is called global variable.
2. It is not accessible by other modules.	b. It is accessible by all the other modules.

13) What is looping in the programming?
➔ Looping is the process of repeating a block of program statements up to a fixed number of times or according to the given condition.

14) What is nested looping?
➔ The occurrence of loops with in another loop is called nested loop.

15) What is iteration?
➔ Iteration is the process of repetition of a series of statements in the program.

16) What is counter in programming?
➔ A counter in programming is a variable which counts the number of times a loop or series of statement are executed.

17) What are argument and parameter in modular programming?
➔ Argument are the actual values or constants, passed to the sub or function procedure.

Parameters are the pre-defined variables that store the values of input item and passed to the sub procedure.

18) What is the difference between actual parameter and formal parameter?
➔ The difference between actual parameter and formal parameter are:

Actual parameter	Formal parameter
a. The variable which stores the real value is known as actual parameter.	a. The variable which store the value of actual parameter is known as formal parameter.
b. They are used and listed in a sub or function	(b) They are declared and included in sub or function

19) What is meant by argument passing by value and argument passing by reference?
➔ Argument passing by value:
It is method of passing the real or direct value to the procedure from the calling section. For example: CALL ADD (10, 20).

Argument passing by reference:
It is the method of passing the address or reference to the variable from main module to sub module instead of value.

20) What is a declare statement? Write its syntax.
➔ Declare is a non executable declaration statement which declares the function or sub procedure and invokes arguments parameters and data type checking.

Syntax :
        Declare Sub/Function procedure name (parameter list)

21) Define Sub….End sub statement with syntax.
➔ Sub…End sub is a procedural statement which declares sub name related parameters and program codes.

Syntax:
        Sub   Sub name (parameter/arguments)
        [statement blocks]
        End Sub

22) What is call statement? Write its syntax.
➔ Call statement is used to call, invoke or transfer control to the sub procedure in modular programming.

Syntax:
        Call Procedure name(parameter lists)

23) Define Function….End function statement with syntax.
➔ It is procedural statement that declares the function name, parameters and program codes from the body of a function procedure.
Syntax:

Function name(parameter lists)
[statement block]
End function

24) Distinguished between shared and common shared statement.

➔ The distinguished between shared and common shared statement are:

Shared statement	Common shared statement
a. It is declared and used in sub or function module.	a. It is used in the main module.
b. It can be used by only the module where it is declared.	b) It can be used by the entire module since it make the variable global.

25) Write the use and syntax of DIM SHARED statement?

➔ DIM SHARED is a declaration statement which makes the variable global to an entire module of modular programming.

Syntax:
DIM SHARED variable(subscript/size)

26) Write the difference between program file and data file?

➔ The difference between program file and data file are:

Program file	Data file
a. Program files are associated in storing the program codes.	a. Data files are associated in storing of output data of the program file.
b. Program files may not be linked with data file.	(b) Data files are linked with program files during run time.
c. The extension of program file is .BAS	(c) The extension of data file may be anything.

27) What is file handling or data file handling?

➔ The way or technique applied in the data file to store, organizes and process data records in required manner is called file handling.

28) What is file organization? Write the structure of file organization in QBASIC?

➔ File organization is the techniques used to handle the data file in programming. There are two file organization used in QBASIC.
a) Sequential file organization
b) Random access files organization

29) What is the difference between sequential file organization and random access file organization?
➔ The differentiate between sequential file organization and random access file organization are:

Sequential file organization	Random file access organization
a. In this system, data are stored and accessed serially.	a. In this system, data are stored and accessed directly.
b. Data accessing is slower.	(b) Data accessing is faster.

30) Write the structure of the data file?
➔ Files → Records → Fields → characters
It mean that files are made up of records, which in turns are collection of data items known as field, each fields is composed of a series of characters.

31) What is the mode of data file?
➔ File mode is the data file opening mode which is required for storing, appending or processing the data.

32) Explain in brief different types of file modes used in QBASIC programming?
➔ The following are the different file modes available is QBASIC programming:
i.   Output or "O" mode: This mode is used to open or create a data file to store records.
ii.   Input or "I" mode: This is mode is used to open an existing data file to read and process data according to requirement.
iii.   Append or "A" mode: This mode is used to open an existing data file to add or append the records.

33) Differentiate between the following:
a.   OUTPUT and APPEND mode

OUTPUT Mode	Append mode
a. This mode is used to write data into a new or fresh file.	a. This mode is used to write data into an existing as well new file.
b. In this mode, the record	(b) In this mode the record pointer will be always on last record.

(b) INPUT and OUTPUT mode.

INPUT Mode	OUTPUT Mode
This mode is used to read entire data from an existing data file.	This mode is used to store data into a new or fresh file.
It is based to output mode in order to access and process data.	(b) It is not associated with input mode because it simply stores data.

34. Write the function and syntax of the following statements.

→ a. OPEN statement: This statement is used to open a data file in specified mode.

Syntax:

OPEN "File name" for <MODE> as #[Filenumber]

e.g. OPEN "Record.dat" for OUTPUT as #1

b. Write# statemen: This statement is used to write or output data to the sequential file.

Syntax:

WRITE #[File number], [expression list]

e.g. WRITE #1, n$, a, b$

c)   Print# statement: This statement is also used to write or output data to the sequential file.
Syntax:
Print# [file number], [expression list]
e.g. Print#1, n$, a, b$

d)   Input# statement: This statement is used to read specified data from the data file and assign them to the related variable. It is mainly used with input mode.
Syntax:

INPUT #<file number>, [expression list]
e.g. INPUT #1, a$, a, c

e) Close# Statement: This statement is used to close one or more opened sequential file.
Syntax:
Close# <file1, file2 …….. file n >
e.g. close #2

f) Line input #: This statement is used to read entire data of sequential data file and assign them to single string variable.

Syntax:
Line input #1, Record$

g) Print # using: This statement is used to write or print data in formatted pattern to the data file or printer.

Syntax:
Print # Using [file number], [variable list]

35. write the function and syntax of the following file system commands or (immediate mode command).

a. FILES: This command is used to display a list of files form the specified directory, sub-directory and the disk..
Syntax:
FILES <file specification>
e.g. FILES "C:\QBASIC*.BAS"

b. MKDIR: This command is used to create a specified sub-directory inside the current directory.
Syntax:
MKDIR <directory name>
e.g. MKDIR "A:\BUTWAL"

c. CHDIR: This command is used to change the current directory into specified location.
Syntax:
CHDIR <directory name>

e.g. RMDIR "C"\program\qbasic

d. RMDIR: This command is used to remove or delete an empty sub-directory into specified location.
Syntax:
RMDIR <directory name>
e.g. RMDIR "C"\program\butwal"

e. NAME: This command is used to change or rename the name of a disk file or directory.
Syntax:
NAME <old file name> AS <new file name>
e.g. NAME "Butwal.bas" as "Palpa.prg"

f) SHELL :
This command is used to enter or go to the DOS prompt temporarily.
Syntax:
SHELL <command string>
e.g. SHELL

[Note: Type "EXIT" at the DOS prompt and press enter key to return back to the QBASIC.]

g) SYSTEM command:
This command is used to close the QBASIC program and return to DOS permanently.
Syntax: SYSTEM
Example: SYSTEM

36) Write the use and syntax of the following:
→   a) Input$
This function is used to return specified number of string from the data file.
Syntax: Input$[n,#(file number)]

B) EOF (End Of File)
This function is used to test for end of file position in the data file. It is very much useful while the numbers of records are unknown in the data file.
Syntax: EOF (file number)

Example: DO while not EOF (1)
    If EOF(1) then close #1

h) BOF (beginning of file)
This function locates the beginning of data file.
Syntax: BOF(file number)

i) LOF (Length Of File)
This function returns the length of a file in bytes.
Syntax: LOF (file number)

STRUCTURE PROGRAMMING (C LANGUAGE)

Some important question answer:

1) **What is structure programming? Write two examples of structure programming language.**
   ➜ Structure programming is a method of integrating small program blocks to from a single complete program.
   Two example of structure programming language are: C, Pascal etc.

2) **Write any two advantages of structured programming?**
   ➜ Following are the two advantages of structured programming:
   1) Easy to learn and understand the programs.
   2) Easy to debug the programs.
   3) More than one programmer can work in this system.

3) **List any two features of structure programming?**
   ➜ It uses top down programming model.
   ➜ It reduces the use of go to statement.

4) List the common data types used in C language.

➜ Data types used in C language are:

    Integer   (int)
    String   (chr)
    Float   (float)
    Long integer   (double)

5) What is C language? Who developed it?

➜ C is a middle level structure programming language used to develop system and application programs developed by Dennis Ritchie at Bell laboratories in 1972.

6) Write any four characteristic of C language?

➜ The characteristics of C language are as follows:

1) C is a small programming language which occupies less memory space.
2) It has enough number of in-built functions and operators.
3) It has variety of data types to represent different kind of data.
4) It is a bridge between high level and low level language.

7) Write the difference between QBASIC and C language?

➜ The difference between QBASIC and C language are as follows:

QBASIC	C
a) It is high level programming language.	a) It is a middle level programming language with close to both high level and low-level language.
b) It is used develop application programs only.	B) It is used to develop both application and system program.
c) It supports limited data type.	C) It supports wide range of data type.
d) It supports both sub procedure and function procedure.	D) It supports only function procedure.

8) What is character set in programming?

➜ The character set consists of alphabet digit or special symbol used to represent information. Character set used in C are as follows:

A, B, C, D, E, 1, 2, 3, 4, #, $, *, {}, [], <> etc.

9) What is keyword? List the common keyword of C language.
➔ Keywords are the collections of commands, statement which are already been reserved by the compiler and used for specific purpose. There are about 32 keywords in C language.

Some of them are listed below.

Auto	Double	If	Static
Break	Else	Int	Struct
Do	Goto	Signed	while

10) What is header file? List some header files of C language?
➔ A header file is a standard file that contains definition of variables and function which are necessary for the functioning of a program.
Some of the header files used in C language are:
1) <stdio.h>
2) <conio.h>
3) <string.h> etc…

11) What are the similarities in QBASIC and C language?
➔ Following are the similarities in QBASIC and C language:
1) Both languages are used to develop structured programs.
2) Both languages support local and global variables.
3) Both languages support procedures.

12) Define the term identifier in C language?
➔ Identifiers can be defined as the name of the variables, functions, array, structure etc . created by the programmer.

13) What is operator in C? List the different types of operators available in C?
➔ Operators are the special symbols that perform certain action or operation on one and more operands, values, variables etc.
Following are the common operators supported by C language:
1) Arithmetic operators

2) Relational operators
3) Logical operators
4) Unary operators

14) Write the size of basic data types of C language?
➔ The size of each data type is mention below:

Data type	Size
Char	One byte
Int	Two bytes
Float	Four bytes
Double	Eight bytes

15) Why C is called middle level language?
➔ C is called a middle level language because it is close to both high level language and low level language.