Q-1> WHAT IS PYTHON?

ANS:- Python was created by guido van roussum in 1991.
      It is general-purpose programming language.
      it is interpreted,object-oriented, high-level language.
      It is platform independent,widely used in AI,ML.
      It is used to develpe almost any type of application.
      it is easy to learn and require less code to develop the app.
      it consists of many libraries and inbuilt functions that make it
easy to maintain and portable.

Q-2> WHAT ARE THE ADVANTAGES OF PYTHON?

ANS:- It is free and open source.
      it is portable.
      it is extensible.
      it is objected oriented .
      it is built in data structure.

Q-3> WHAT IS PEP 8?

ANS:-PEP 8 is a coding convention which specifies a set of guidelines,
about how to write your python
      code more readable.

Q-4> WHAT DO YOU MEAN BY PYTHON LITERALS?

ANS:- Python literals can be defined as data which are given in a
variable or constant.
      There are 6 types of literals in python:
      String Literals:-
                    some text in single or double quote
      Character Literals:-
                     single character inclosed in quotes
      Numeric Literals:-
                  integer,float,complex
      Boolean Literals:-
                  True,False
      Special Literals:-
                  None
      Literal Collections:-
                   list,tuple,dictionary,set

Q-5> EXPLAINS PYTHON FUNCTIONS?

ANS:- A function is a section of program or a block of code that is
written once and can be executed
      whenever required in the program.
      There are two types of functions:
      1. Built-in-function
      2. User-defined function

Q-6> WHAT IS PYTHON ZIP() FUNCTION?

ANS:- The python zip() function is used to transform multiple lists i.e
list1,list2,list3 into a single
        list of tuples by taking the corresponding elements of lists that
are passed as parameters.

Q-7> WHICH ARE THE FILE RELATED LIBRARIES/MODULES IN PYTHON?

ANS:- Python provides libraries/modules with functions that facilate you
to manipulate text files and
        binary files on file system. By using these libraries,you can
create files,update their contents,
        copy and delete files.
        These libraries are :- os,os.path & shutil.
        OS & OS.PATH:- These libraries include functions for accessing the
filesystem.
        SHUTIL:- This library is used to copy and delete the files.

Q-8> WHICH ARE THE DIFFRENT FILE PROCESSING MODES SUPPORTED BY PYTHON?

ANS:- python provides three modes to open files:
        1.Read-only mode
        2.Write-only mode
        3.Read-write mode

Q-9> HOW MANY TYPES OF OPERATOR IN PYTHON?

ANS:- There are six types of operator in python.
        1.Arithmetic operator
        2.Relations operator
        3.Assignment operator
        4.Logical operator
        5.Memebership operator
        6.Identity operator
        7.Bitwise operator

Q-10> WHAT IS OPERATOR IN PYTHON?

ANS:- An Operator is a particular symbol which is used on some values and
produces an output as result
        for ex:- 3+4=7
            here + and = are operators.

Q-11> HOW IS PYTHON INTREPETED LANGUAGE?

ANS:- python is an interpreted language,which means the source code of a
python program is converted

into bytecode that is then executed by the python virtual machine.
    Program written in interpreted language does not need any
compilation step.

Q-11> WHAT ARE DIFFERENCES BETWEEN LISTS AND TUPLES IN PYTHON?

ANS:- Lists and Tuples both are sequencial data types that can store a
collection of data in python.
    The data stored in both sequences can have different data types.
    Lists are represented with square brackets while tuples are
represented with paranthesis.
    The key difference between the two is that lists are mutable data
structure,
    Tuple on the other hand are immutable.This means that lists can be
modified,but
    Tuple remain constant and cannot be modified in any manner.

Q-12> WHAT IS __INIT__ IN PYTHON?

ANS:- __INIT__ is a reserved method in python classes.It is known as
constructor in python classes.
    Constructor is used to create instant member.This method
automatically called when an
    object of that class is created.
    in java and c++ constructor name is same as the class name but in
python it is compilsory to
    create constructor with the name __init__.

Q-13> WHAT IS THE USE OF BREAK AND CONTINUE ?

ANS:- These two are keywords.Break and Continue statements can alter the
flow of a normal loop.
    BREAK:-
        The break statement terminates the loop.Control of the program
flow outside the body of the loop.
    CONTINUE:-
        The continue statement is used to skip the rest of the code
inside a loop for the current iteration
        only.Loop does not terminate but continues on with the next
iteration.

Q-14> WHAT IS SLICING IN PYTHON?

ANS:- As the name suggests,'slicing' is taking part of.
    Slicing in python is a feature that enables us to access a part of
sequences like:-
    string,tuples,and lists.
    syntax of slicing:-
        inside subscript operator we mention starting index then colon
then end index then colon
        then step.step is optional bydefault its value is +1.

Q-15> WHAT IS THE DIFFRENECE BETWEEN PYTHON ARRAY AND LIST ?

ANS:- Array in python can only contains elements of same data type
i.e.,data type of array should be
      homogenous.
      List in pyton can contain elements of different data types i.e.,
data type of list can be heterogenous.
      Arrays are fast while lists are slow.

Q-16> HOW ARRAY IS CREATED IN PYTHON?

ANS:- Array in python can be created by importing array module.
      inside array module we have to call array fuction and pass
data_type and value list to create an
      array with that data type and with the given list value
      syntax:- import array as arr
               a=arr.array('i',[10,20,30])

Q-17> HOW TO CREATE CONSTANT VARIABLE IN PYTHON?

ANS:- First we have to install pconst library from pip.
      then we have to import const module from pconst.
      with the help to const module we can create constant variable in
python.
      for Ex:-if we want to create constant varibale p,
          then const.p=10
      Here p is the constant variable so we cannot change the value of p.

Q-18> WHAT IS LAMBDA IN PYTHON?

ANS:-Lambda is an anonymous function in pyton that can accept any number
of arguments but can only have a
      single expression.
      SYNTAX:-
          mul=lambda x,y:x*y
      TO CALL:-
          mul(4,5)

Q-19> WHAT IS TYPECASTING IN PYTHON?

ANS:- Typecasting means changing one data type into another is known as
typecasting.

Q-20> WHAT ARE TUPLE IN PYTHON?

ANS:- Tuple is a collection data type and it is unchangable, it means
that we cannot change the value of tuple.

Q-21> WHY PYTHON IS USED FOR FAST DEVELOPMENT CYCLE?

ANS:- python is different from major compiled languages,such as C and
C++.
        As the code is not needed to be compiled,python code can be
readily
      changed and executed.This help for a fast development cycle.

Q-22> WHY PYTHON IS SLOWER THAN C AND C++?

ANS:- Since the code is not directly compiled and executed and an
addtional layer of the python virtual
      machine is responsible for execution,Python code runs a little slow
as compared to conventional
      language like C,C++,etc.

Q-23> WHAT IS A DYNAMICALLY TYPED LANGUAGE?

ANS:-Dynamic means data type are checked during execution.Python is an
interpreted language.
     It executes each statement line by line and thus type checking is
done on the fly,during
     execution.Hence,python is a Dynamically Typed Language.

Q-24> WHAT IS STATICALLY TYPED AND DYNAMICALLY TYPED LANGUAGE?

ANS:-Statically-typed language perform type checking at compile-
time,while dynamically-typed language perform
     type checking at run0-time.
     statically-typed language require you to declare the data types of
your variable before you use them,
     while dynamically-typed language do not.

Q-25> WHAT ARE THE TYPES OF SCOPE VARIBALE?

ANS:- There are commonly two types of scope variable:-
     LOCAL SCOPE:-
             The Variables which are defined in the function are known as
local variable.
             These variables are defined in the function body and can
only be accessed inside
             the function body , where it is declared.
     GLOBAL SCOPE:-
             The variable which can be read or accessed from anywhere in
the program is known as global scope.
             These variable can be accessed inside and outside the
function.

Q-26> WHAT ARE THE BENEFITS OF USING PYTHON?

ANS:- The benefits of using python are:-

    1.Easy to use
    2.interpreted language
    3.Dynamically typed language
    4.Free and Open source
    5.Extensive support for libraries
    6.Portable

Q-27> WHAT ARE DICTIONARY AND LIST COMPREHENSIONS?

ANS:- Dictionary and list comprehensions are just another concise way to
define dictionary and list.
    EXAMPLE:-
        X=[i for i in <collection>]

Q-28> WHAT ARE THE COMMON BUILT-IN DATA TYPES IN PYTHON?

ANS:-The common built in data types in python are:-

    1.NUMBER
        integer,float,complex

    2.LIST

    3.TUPLE

    4.STRING

    5.SET

    6.DICTIONARY

    7.BOOLEAN

Q-29> WHAT IS THE DIFFERENCE BETWEEN .PY AND .PYC FILES?

ANS:- The .py files are the python source code files.while the pyc files
contain the bytecode of the python
    files.The interpreter converts the source.py file to pyc.files.

Q-30> WHAT IS NAMESPACE IN PYTHON?

ANS:- A namespace is a naming system used to make sure that names are
unique to avoid nameing conflicts.

Q-31> HOW IS MEMORY MANAGED IN PYTHON?

ANS:-Memory management in python is managed by PYTHON PRIVATE HEAP SPACE.The programmer does not have access
to this private heap. The python interpreter takes care of this.
The allocation of heap space for python objects is done by Python's memory manager.
Python also has an INBUILT GARBAGE COLLECTOR,which recycles all the unused memory and so that it can
be available to the heap space.

Q-32> WHAT ARE THE POSITIVE AND NEGATIVE INDICES?

ANS:-In the positive indices are applied the search beigns from left to the right.In the case of negative
indices,the search begins from right to left.
for ex:-
Let the array list of size "n".In case of positive index the first index is 0,then comes 1 and
until the last index is -1.
However in case of negative index the first index is -n,then -(n-1) until the last index will be -1.

Q-33> WHAT ARE PYTHON MODULES? NAME SOME COMMON BUILT-IN-MODULE IN PYTHON?

ANS:-Python modules are files containing python code.This code can either be funtions classes or variables.
A Python module is a .py file containing executable code.
Some of the commonly used built in modules are:-
1. OS
2.SYS
3.MATH
4.RANDOM

Q-34> WHAT ARE LOCAL VARIABLES AND GLOBAL VARIABLES IN PYTHON?

ANS:-GLOBAL VARIABLES:-
Variables declared outside a function or in global space are called global variable.
These variables can be accessed by any function in the program.

LOCAL VARIABLES:-
Any variable declared inside a function is known as a local variable. This varible is
present in the local space and not in the global space.

When you try to access the local varible outside the any function,it will throw an error.

Q-35> IS INDENTATION REQUIRED IN PYTHON?

ANS:- Indentation is necessary for python.It specifies a block of
code.All code within loops,classes,functions
        is specified within an indented block.It is usually done using four
space character.If you code is not
        indented necessarily,it will not execute accurately and will throw
errors as will.

Q-36> HOW DO YOU MODIFY A STRING IN PYTHON?

ANS:-You cannot modify a string because it is a immutable data type.but
if we want to modify then
        you have to first convert into list then update it by subscript
operator and then by using
        join method of string we can again convert into string.AS:-

    s = list("Hello zorld")
      print(s)
        ['H', 'e', 'l', 'l', 'o', ' ', 'z', 'o', 'r', 'l', 'd']

     s[6] = 'W'

      print(s)
      ['H',e', 'l', 'l', 'o', ' ', 'W', 'o', 'r', 'l', 'd']

     m= "".join(s)
     print(m)
        Hello world

Q-37> WHAT IS THE DIFFERENCE BETWEEN LIST METHOD APPEND() AND EXTEND()?

ANS:-
    APPEND:- Adds an element to a list.
    EXTEND:- Concatenates the first list with another iterable (not
necessary a list,it can be any iterable).

    x = [1, 2, 3]
    x.append([4, 5])
    print (x)
       [1, 2, 3, [4, 5]]

    x = [1, 2, 3]
    x.extend([4, 5])
    print (x)
       [1, 2, 3, 4, 5]

    x=[1,2,3]
    x.entend((4,5))
    print(x)
       [1,2,3,4,5]

Q-38> WHY WE USE THE PASS STATEMENT IN PYTON?

ANS:-The pass statement is used as a placeholder for future code. When
the pass statement is executed,

nothing happens, Python has the syntactical requirement that code blocks cannot be empty.
   Otherwise,it will occur syntax error.

Q-39> WHAT IS CALLABLE?

ANS:- A callable is anything that can be called.
   A callable object allows you to use round parenthesis ( ) and eventually pass some parameters,
   just like functions.

Q-40> EXPLAIN SPLIT() AND JOIN() FUNCTION?

ANS:- You can use split() function to split a string to a list of strings based on a delimiter.
   You can use join() function to join a list of strings to give a single string based on a delimiter.

Q-41> WHAT IS PANDAS IN PYTHON?

ANS:-Pandas is an open source python package that is mostly used for data science/data analysis and
   machine learning. It has a very rich set of data structure for data based operations.
   It provides two fantastic data structure:- series and dataframes.
   DATAFRAMES:- it is mutable datatypes present in pandas library. It provides support for heterogenous data.
   PANDAS SERIES:- series is one dimensional pandas data structure present in pandas library that supports
                        data of almost any types.
                        It supports multiple operations and is used for single dimenshional data operation.

Q-42> HOW DO YOU ADD SINGLE-LINE AND MULTI-LINE COMMENTS IN PYTHON?

ANS:- SINGLE LINE COMMENTS:- # is used to denote single line comments.
      MULTI-LINE COMMENTS:- """ """(Triple quotes are used across many lines)

Q-43> WHAT IS THE EFFICIENT WAY TO ADD ELEMENT TO A TUPLE OR STRING?

ANS:- Tuples are immutable datatypes in python.
      * you cannot add elements to an existing tuple.
      * A new one must be created if the value are to be changed!

Q-44> WHAT IS DICTIONARY IN PYTHON?

ANS:- A Python dictionary is a collection of items with keys and values pair. It is written in curly brackets.
        They are optimized to retrieve value for known keys.

Q-45> WHAT IS WITH STATEMENT USED FOR IN PYTHON?

ANS:-

Q-46> WHAT IS A MAP() FUNCTION IN PYTHON?

ANS:- The map() function in python is used for applying a function on all elements of a specified iterable.
        * it consists of two parameters, function_name and iterable.

Q-47> WHAT IS DIFFERENCE BETWEEN NUMPY AND SCIPY?

ANS:- Numpy stands for Numerical python while Scipy stands for Scientific python.
        * Numpy is the basic library for defining array and simple mathematical problems.
        * Scipy is used for more complex problems like numerical integration and machine learning and so on.

Q-48> HOW TO REMOVE SPACES FROM A STRING IN PYTHON?

ANS:- Spaces can be removed from a string in python by using strip() or replace() functions.
        * Strip() function is used to remove the leading and trailing white space while the replace() fucnction
          is used to remove all the white spaces in the string.

    for ex:-   a="ravi kumar"
               b=a.replace(" ", "");
               print(b) --> ravikumar

Q-49> EXPLAIN THE FILE PROCESSING MODES THAT PYTHON SUPPORTS?

ANS:- There are six file processing modes in python:

        1. read-only mode(r)
        2. write-only mode(w)
        3. append-only mode(a)
        4.r++ mode
        5.w++ mode
        6.a++ mode

Q-50> EXPLAIN ALL THE MODES?

ANS:-

Q-51>WHAT IS UNNITEST IN PYTHON?

ANS:- Unittest is a unit testing framework in python.

Q-52> HOW DO YOU DELETE A FILE IN PYTHON?

ANS:- We can delete a file by importing OS module.
        ex:- os.remove(filename)

Q-53> HOW DO YOU CREATE AN EMPTY CLASS IN PYTHON?

ANS:- To create an empty class we can use the pass command after the
definition of the class object.
         A pass is a statement in python that does nothing.

Q-54> WHAT ARE PYTHON DECORATORS?

ANS:- Decoratotrs are functions that take another functions as argument
to modify its behaviour without changing the function itself.
     * These are useful when we want to dynamically increase the
functionality of a function without changing it.

Q-55> WHAT DOES EARLY BINDING MEANS?

ANS:- Early binding is a popular concept in OOPS that is used for many
purposes.
       * Majorly, it is used to assign values during compile time to save
a lot of time during the execution of the entire project.