Q1. Is an assignment operator like += only for show? Is it possible that it would lead to faster results at the runtime?

Ans : Well, since you say you're sure that this matters you should just write a test program and measure to find the difference.

Comparison can be faster if this code is executed on multiple variables allocated at scattered addresses in memory. With comparison you will only read data from memory to the processor cache, and if you don't change the variable value when the cache decides to to flush the line it will see that the line was not changed and there's no need to write it back to the memory. This can speed up execution.

Q2. What is the smallest number of statements you'd have to write in most programming languages to replace the Python expression a, b = a + b, a?

Ans : in python we can perform this in one statement.

Q3. In Python, what is the most effective way to set a list of 100 integers to 0?

Ans : lst = [0] \* 100

Q4. What is the most effective way to initialise a list of 99 integers that repeats the sequence 1, 2, 3? S If necessary, show step-by-step instructions on how to accomplish this.

Ans : lst = [x for x in range(100)]

Q5. If you're using IDLE to run a Python application, explain how to print a multidimensional list as efficiently?

Ans : a = [ [2, 4, 6, 8 ],

[ 1, 3, 5, 7 ],

[ 8, 6, 4, 2 ],

[ 7, 5, 3, 1 ] ]

for i in range(len(a)) :

for j in range(len(a[i])) :

print(a[i][j], end=" ")

print()

Q6. Is it possible to use list comprehension with a string? If so, how can you go about doing it?

Ans :

names = ['Steve', 'Bill', 'Ram', 'Mohan', 'Abdul']

names2 = [s for s in names if 'a' in s]

print(names2)

Q7. From the command line, how do you get support with a user-written Python programme? Is this possible from inside IDLE?

Ans :

To run Python scripts with the python command, you need to open a command-line and type in the word python , or python3 if you have both versions, followed by the path to your script, just like this: $ python3 hello.py Hello World!

Q8. Functions are said to be “first-class objects” in Python but not in most other languages, such as C++ or Java. What can you do in Python with a function (callable object) that you can't do in C or C++?

Ans : You can get information about all Python objects at run time, which includes functions in the program — considered first-class objects. Although C++ has function pointers as well as “callable objects,” the ability to inspect functions (and rename them!) at run time does not exist in C++ the way it does in Python.

Q9. How do you distinguish between a wrapper, a wrapped feature, and a decorator?

Ans : “Wrapper” is the alternative nickname for the Decorator pattern that clearly expresses the main idea of the pattern. A wrapper is an object that can be linked with some target object. The wrapper contains the same set of methods as the target and delegates to it all requests it receives.

Wrappers around the functions are also knows as decorators which are a very powerful and useful tool in Python since it allows programmers to modify the behavior of function or class. Decorators allow us to wrap another function in order to extend the behavior of the wrapped function, without permanently modifying it.

Q10. If a function is a generator function, what does it return?

Ans : it returns an iterator object with a sequence of values.

Q11. What is the one improvement that must be made to a function in order for it to become a generator function in the Python language?

Ans : If a function contains at least one yield statement (it may contain other yield or return statements), it becomes a generator function.

Q12. Identify at least one benefit of generators.

Ans : Memory efficient method of generating sequence types in python.

* Adds further brevity and readability to written code. Generator expressions are generator functions shortened.
* Time-efficient when compared to list comparisons.