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

Ans: A = A + 1 is evaluated to find A by adding 1. Then store the value in variable A. This expression causes Python to search the storage holder for a twice. But A+=1 simply means that the value of A should be incremented by 1. += works faster because the memory address has to be identified once.

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: The minimum number of lines required to write the above code in any other Python language is 4 lines, 2 lines for initial value assignment of variables a and b and 2 lines for reassignment. H. a=a+b and b=a

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

Ans:

list\_of\_zeros = [0 for x in range(100)]

print(list\_of\_zeros)

Q4. What is the most effective way to initialize 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:

list = [1,2,3] \* 33

print(list)

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

Ans:

list = [[1,1],[2,2],[3,3],[4,4],[5,5]]

for x in range(len(list)):

for y in range(len(list[x])):

print(list[x][y],end=" ")

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

Ans: yes, possible

list = [x for x in "Hello"]

print(list)

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

Ans: Help for custom Python programs: Start (Windows) Or a terminal window (Linux/Mac). If your current working directory matches where you saved the file, simply pass the filename as a command line argument to the Python interpreter.

Help for user-written Python programs in IDLE: You can also create script files and run them in IDLE. From the shell window menu, select File → New File. This will open an additional editing window. Enter the code to run. From this window's menus, select File > Save or File > Save As to save the file to disk. Then choose Run > Run Module. The output should reappear in the interpreter

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: A function is an instance of the Object type.

We can store the function in a variable.

We can store them in data structures such as hash tables, lists.

We can pass the function as a parameter to another function.

We can return the function from a function.

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

Ans: Wrappers Around the functions are known as Decorators

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

Ans: A generator function is a special kind of function that returns a lazy iterator. These are objects that can be iterated over like lists. However, unlike lists, deferred iterators do not store their contents in memory.

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: Generator is a written as normal function but uses yield keyword to return values instead of return keyword.

Q12. Identify at least one benefit of generators.

Ans: A return statement sends a specific value back to the caller, while a yield statement can produce a set of values. If you want to iterate over a sequence, but don't want to store the entire sequence in memory, you should use a Generator.