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

It is not for show, it adds and assigns the final value to the variable. It is same as the addition operator, there is negligible difference in runtime.

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?

x = ("a","b")

print(x.replace("a","a+b"))

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

list1= [i for i in range(0,100)]

list1

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.

x= (1,2,3)\*99

print(f"{x}", "")

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

Multidimensional lists are just lists within lists.

a = [[12, 14, 16, 18, 20], [3, 6, 9, 12, 15], [4, 8, 12, 16, 20]]

print(a)

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

Yes. It is possible

n\_num = [x for x in range(10) if x%1 == 0]

print(n\_num)

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

Open the configuration dialog by selecting Preferences in the application menu. For more details, see Setting preferences under Help and preferences.

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++?

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

Wrapper is also known as decorator, used to modify the behaviour of function or a class.

A wrapped feature is a machine learning algorithm used to find all possible iterations for a perfect fit for a dataset.

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

Generator function returns a object along 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?

A yield statement must be made to the function.

Q12. Identify at least one benefit of generators.

Time efficient and memory efficient, increases code readability.