1. What will be the output of the following code snippet?

```
def func(a, b):
return b if a == 0 else func(b % a, a)
print(func(30, 75))
```

Ans.- The output will be 15

2.
```
numbers = (4, 7, 19, 2, 89, 45, 72, 22)
sorted_numbers = sorted(numbers)
even = lambda a: a %2 == 0
even_numbers = filter(even, sorted_numbers)
print(type(even_numbers))
```

Ans.- Filter

3. As what datatype are the *args stored, when passed into

Ans.- Tuple (when *args is used in a function definition, it collects any additional positional arguments into a tuple.

4.
```
set1 = {14, 3, 55}
set2 = {82, 49, 62}
set3 = {99, 22, 17}
print(len(set1 + set2 + set3))
```

Ans.- Error (this will result in a TypeError because the + operator is not supported for sets.)

5. What keyword is used in Python to raise exceptions?

Ans.- raise keyword

6. Which of the following modules need to be imported to handle date time computations in Python?

Ans.- datetime

7. What will be the output of the following code snippet?

```
print(4**3+(7+5)**(1+1))
```

Ans.- 208

8. Which of the following functions converts date to corresponding time in Python?

Ans.- strftime (the strftime function in Python is used to convert a date object into a string representing the date, controlled by format codes.)

9. The Python tuple is _____ in nature.

Ans.- immutable (means its elements cannot be changed after the tuple is created)

10. The ____ is a built-in function that returns a range object that consists series of integers, which we can iterate using for a loop.

Ans.- range()

11. Among which of the following is a function which does not have any name?

Ans.- Lambda function

12. The module Pickle is used to ____ .

Ans.- Serializing and De-serializing Python object structure

(serializing refers to the process of converting a Python object into a byte stream, and de-serializing is the reverse process of reconstructing the original object from a byte stream.)

13. Amongst which of the following is/are the method of convert Python objects for writing data in a binary file?

Ans.- dump() method

14. Amongst which of the following is/are the method of unpickling data from a binary file?

Ans.- load()

15. A text file contains only textual information consisting of ____ ?

Ans.- Alphabets, Numbers and Special symbols

16. Which Python code could replace the ellipsis (....) below to get the following output?

```
captains = { "Enterprise": "Picard",
             "Voyager": "Janeway",
             "Defiant": "Sisko", }
```

Ans.-
```
for ship, captain in captains.items():
    print(ship, captain)
```
and
```
for ship in captains:
    print(ship, captains[ship])
```

17. Which of the following lines of code will create an empty dictionary named captains?

Ans.- captains = {}

18. Now you have your empty dictionary named captains. It's time to add some data!

Specifically, you want to add the key-value pairs "Enterprise": "Picard", "Voyager": "Janeway", and "Defiant": "Sisko".

Which of the following code snippets will successfully add these key-value pairs to the existing captains dictionary?

Ans.- captains["Enterprise"] = "Picard"

captains["Voyager"] = "Janeway"

captains["Defiant"] = "Sisko"

19. You're really building out the Federation Starfleet now! Here's what you have:

```
captains = {
        "Enterprise": "Picard",
        "Voyager": "Janeway",
        "Defiant": "Sisko",
        "Discovery": "unknown",
        }
```

Now, say you want to display the ship and captain names contained in the dictionary, but you also want to provide some additional context. How could you do it?

Ans.- for ship, captain in captains.items():

print(f"The {ship} is captained by {captain}.")

Output:

The Enterprise is captained by Picard.

The Voyager is captained by Janeway.

The Defiant is captained by Sisko.

The Discovery is captained by unknown.

20. You've created a dictionary, added data, checked for the existence of keys, and iterated over it with a for loop. Now you're ready to delete a key from this dictionary:

```
captains = {
```

"Enterprise": "Picard",

"Voyager": "Janeway",

"Defiant": "Sisko",

"Discovery": "unknown",

}

What statement will remove the entry for the key "Discovery"?

Ans.- del captains["Discovery"]

This statement will remove entry for key “Discovery” from the captains dictionary.