

I. SECTION A

1. Differentiate between `clear()` and `remove()` of Python in reference of list sequence.
2. Start with the list `[8,9,10]`. Do the following using list functions
 - (a) Set the second entry (index 1) to 17
 - (b) Add 4, 5 and 6 to the end of the list.
 - (c) Remove the first entry from the list.
 - (d) Sort the list.
 - (e) Double the list.
 - (f) Insert 25 at index 3

Ans: (a) `list[1]=17`

(b) `list.append([4,5,6])`

(c) `list.pop(0)`

(d) `list.sort()`

(e) `list=list*2`

(f) `list.insert(3,25)`

3. Predict the output

```
List1=[13,18,11,16,13,18,13]
print(List1.index(18))
print(List1.count(18))
List1.append(List1.count(13))
print(List1)
```

Ans:

`List1.index(18)` will return 1 because 18 first appears at index 1.

`List1.count(18)` will return 2 because 18 appears twice.

`List1.count(13)` will return 3 because 13 appears three times.

After appending 3 (the count of 13), the final list will be `[13, 18, 11, 16, 13, 18, 13, 3]`.

Output:

1

2

[13, 18, 11, 16, 13, 18, 13, 3]

4. What is the length of the tuple shown below?

T = (((("a", 1), "b", "c"), "d", 2), "e", 3)

Ans:3

5. If a is (1, 2, 3), what is the meaning of a [1:1] = 9?

Ans: This will produce an error: TypeError: 'tuple' object does not support item assignment

6. What is the difference between (30) and (30,)?

Ans: (30) is an integer while (30,) is a tuple.

7.

Predict output:

```
a,b,c=2,3,4
a,b,c=a*a,a*b,a*c
print(a,b,c)
```

8. Output: 4 6 8

Predict the output –

```
t=(1,)*3
t[0]=2
print(t)
```

- t = (1,) * 3:
 - The tuple (1,) is multiplied by 3, which means the tuple is repeated three times.
 - The result is t = (1, 1, 1).
- t[0] = 2:
 - Tuples are immutable, meaning their elements cannot be changed after creation. Therefore, this will raise a TypeError.

9. What would following expression return?

- | | |
|-----------------------------------|-----------------------------------|
| (a) "Hello World".upper().lower() | (b) "Hello World".lower().upper() |
| (c) "Hello World".find("Wor",1,6) | (d) "Hello World".find("Wor") |
| (e) "Hello World".find("wor") | (f) "Hello World".isalpha() |
| (g) "Hello World".isalnum() | (h) "Hello World".isdigit() |
| (i) "123FGH".isdigit() | |

Ans: (a) 'hello world' (b) 'HELLO WORLD'

(c) -1 (d) 6

(e) -1 (f) False

(g) False (h) False

10. Difference between split() and partition() in string methods.

11. difference between pop() and remove().

12. How are Tuples different from Lists when both are sequences?

13. Can you append item to a tuple?

Since tuples are immutable, they do not have a built-in append() method, but there are other ways to add items to a tuple. Convert into a list: you can convert it into a list, add your item(s), and convert it back into a tuple.

```
>>> t = (1, 2, 3, 4)
>>> t = list(t)
>>> t.append(5)
>>> t = tuple(t)
>>> print(t)
(1, 2, 3, 4, 5)
```

14. What are mutable and immutable types? List the mutable and immutable types of Python.

15. Difference between

sort and sorted.

Index and find

16. Consider a list: list1 = [6,7,8,9] What is the difference between the following operations on list1:

a. list1 * 2

b. list1 *= 2

c. list1 = list1 * 2

17. Which of the following statements will create an empty tuple?

a. P = () b. Q = tuple() c. Both of the above d. None of the above

18. Consider the following list myList. What will be the elements of myList after the following two operations:

```
myList = [10,20,30,40]
```

```
myList.append([50,60])
```

```
print(myList)
```

```
myList.extend([80,90])
```

```
print(myList)
```

What will be the output of the following statements?

- a. `list1 = [12,32,65,26,80,10]`
`list1.sort()`
`print(list1)`
- b. `list1 = [12,32,65,26,80,10]`
`sorted(list1)`
`print(list1)`
- c. `list1 = [1,2,3,4,5,6,7,8,9,10]`
`list1[::-2]`
`print(list1)`
`list1[:3] + list1[3:]`
`print(list1)`
- d. `list1 = [1,2,3,4,5]`
`print(list1[len(list1)-1])`

19.

Write the output of the following code :

```
A=list("welcome")
print(A)
```

Write the output of the following code :

```
>>>L=list("www.csiplearninghub.com")
>>>print(L[20 : 0])
```

Write the output of the following code :

```
L=["Amit","Sumit","Naina"]
print(L*2)
```

20.Differentiate between slicing and traversing.

21.Differentiate between `append()` and `extend()`.