Q. What are the characteristics of the tuples? Is tuple immutable?

Ans) Tuple items are ordered, unchangeable, and allow duplicate values . The items in tuples cannot be modified (meaning they cannot be changed).

Yes tuple is immutable because we can not can the value of items present in tuple

Q. Which collection datatypes in python do not allow duplicate items? Write a code using a set to remove duplicates from the given list.

List = [1, 1, 1, 2, 1, 3, 1, 4, 2, 1, 2, 2, 2, 3, 2, 4, 3, 1, 3, 2, 3, 3, 3, 4, 4, 1, 4, 2, 4, 3, 4, 4]

Ans) **set()** is datatype in python that do not allow duplicate items.

List=[1, 1, 1, 2, 1, 3, 1, 4, 2, 1, 2, 2, 2, 3, 2, 4, 3, 1, 3, 2, 3, 3, 3, 4, 4, 1, 4, 2, 4, 3, 4, 4]

new\_List=list(set(List))

print(new\_List)

Output -> [1, 2, 3, 4]

Q. Using setdefault() method, create key named topics in the given dictionary and also add the value of the key as this list ['Python', 'Machine Learning’, 'Deep Learning']

Ans) dict1 = {'language' : 'Python', 'course': 'Data Science Masters'}

dict1.setdefault( ‘topics’,['Python','Machine Learning’, 'Deep Learning'])

print(dict1)

Output -> {

'language': 'Python',

'course': 'Data Science Masters',

'topics': ['Python', 'Machine Learning', 'Deep', 'Learning']

}

Q8. What are the three view objects in dictionaries? Use the three in- built methods in python to display these three view objects for the given dictionary.

Ans) The three view objects in dictionaries are keys, values and items.

dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand']}

>>> dict1.keys()

Output -> dict\_keys(['Sport', 'Teams'])

>>> dict1.values()

Output -> dict\_values(['Cricket', ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand']])

>>> dict1.items()

Output -> dict\_items([('Sport', 'Cricket'), ('Teams', ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand'])])