### **Multiple-Choice Questions (MCQs):**

Lists:

What is the result of my\_list[2] if my\_list = [10, 20, 30, 40]? [ C ]

A) 10

B) 20

C) 30

D) 40

Which method is used to add an element to the end of a list in Python? [ A ]

A) append()

B) insert()

C) extend()

D) add()

What does my\_list[::-1] do in Python? [ A ]

A) Reverses the list

B) Returns the last element of the list

C) Sorts the list in descending order

D) Returns a copy of the list

Which data structure is used to store unique elements in Python? [ C ]

A) List

B) Tuple

C) Set

D) Dictionary

How do you check if an element is present in a set? [ A ]

A) Using contains()

B) Using in keyword

C) Using has()

D) Using exists()

Which method is used to add elements to a set in Python? [ A ]

A) add()

B) append()

C) insert()

D) update()

Can you modify elements in a tuple after it is created? [ C ]

A) Yes, using append()

B) Yes, using insert()

C) No, tuples are immutable

D) No, tuples are mutable

How do you create a tuple with a single element? [ A ]

A) (1)

B) (1,)

C) [1]

D) {1}

What does "Hello" + "World" evaluate to in Python? [ A ]

A) "HelloWorld"

B) "Hello World"

C) "HelloWorld"

D) Error

How do you access the first character of a string my\_str in Python? [ A ]

A) my\_str[0]

B) my\_str(0)

C) my\_str.first()

D) my\_str.first

Which method is used to split a string into a list of substrings based on a delimiter? [ A ]

A) split()

B) join()

C) concat()

D) append()

How do you check if a string starts with a specific substring? [ A ]

A) startsWith()

B) startswith()

C) start()

D) beginWith()

What does len("Python") return in Python? [ B ]

A) 5

B) 6

C) 7

D) 8

How do you convert a string to lowercase in Python? [ A ]

A) str.lower()

B) str.upper()

C) str.casefold()

D) str.capitalize()

What does "hello".capitalize() return in Python? [ B ]

A) "hello"

B) "Hello"

C) "HELLO"

D) Error

### **Programming Exercises:**

1. Write a Python program that takes a list of numbers and prints the sum of all the elements.

Solution: a=[1,6,9,20,40]

Print(sum(a))

Output: 76.

1. Develop a Python program that removes duplicates from a given list and prints the unique elements.

Solution: a={1,2,3,4,6,3,1,4,5}

b=a.union()

print(b)

output: {1,2,3,4,5,6}

1. Create a Python program that takes two sets as input and prints the union of these sets (all unique elements from both sets).

Solution: a={1,2,3,4,5}

b={3,2,1,6,7,8,9}

c=a.union(b)

print(c)

Output: {1,2,3,4,5,6,7,8,9}

1. Write a Python function that checks if two given tuples are identical.

Solution: a=(2,3,4)

b=(2,3,4)

c= a== b

Print(c)

Output: True

1. Implement a Python program that reads a string and counts the occurrences of each character.

Solution: name=”bhavya”

Print(name.count(“a”))

Output: 2

1. Develop a Python program that reverses a given string using slicing.

Solution: a=”bhavya”

Print(a[::-1])

Output: ayvahb

1. Write a Python program to find the common elements between two lists.

Solution: a={1,2,3,4,5,6,7,8}

B={3,4,2,1,6,9,8}

Print(a.intersection(b))

Output: {1,2,3,4,6,8}

1. Create a Python function that takes a string as input and checks if it is a palindrome.
2. Implement a Python program that converts a given string to title case (capitalize the first letter of each word).

Solution: a=”bhavya”

Print(a.capitalize())

Output: Bhavya

1. Write a Python program that reads a list of strings and sorts them in alphabetical order.

Solution: a=[“games”, “fruits”, “names”]

a.sort()

print(a)

[‘fruits’, ‘games’, ‘names’]

1. Develop a Python program that reads a string and counts the number of vowels (a, e, i, o, u) in it.
2. Create a Python program that checks if a given string is an anagram of another string.
3. Write a Python function that takes a list of numbers and returns a new list with only the even numbers.

Solution: a=[1,2,3,4,5,6,7,8]

for val in a:

if val % 2==0:

print(val)

output:2

4

6

8

1. Develop a Python program that takes a string and converts it to uppercase.

Solution: a=”bhavyasri”

b=a.upper()

print(b)

Solution: BHAVYASRI

1. Implement a Python program that reads a list of integers and prints the maximum and minimum values.

Solution: a=[5,10,15,20,30,40,50]

b=min(a)

print(b)

Output: 5.

Solution: b=max(a)

print(b)

output: 50.