Python

Module 4 Lesson 12

Name: Date:

Instructions:

1. Students are given 1 hour to complete this test.
2. For the duration of the test, teachers are not allowed to help the students with the answer.
3. Students are to score at least 70% on the test to pass. If they fail, they will have to redo the test again in the next lesson.

Section A – MCQ	/ 10
Section B – Short Coding Problems	/ 20
Section C – Long Coding Problems	/ 20
	/ 50

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Name: Date:

Section A: (10 Marks)

This is a multiple-choice answer section. Write your answer is the bottom right of each question.

Each question is worth only 1 Mark.

Question 1:

Dictionaries in python are

A) Something to check meanings of words

B) An array of values that follows a certain index number

C) A collection which is ordered, changeable and does not allow duplicates

D) A collection that allows for multiple duplicate values

Question 2:

What is the output?

Code	
1	lst = [1, 2, 3, 4, 5]
2	for val in lst:
3	lst = lst + [val]
4	print(lst)

For the program above, what is the output?

A) [1, 2, 3, 4, 5, 1, 2, 3, 4, 5]

B) []

C) [1, 2, 3, 4, 5, 0, 1, 2, 3, 4]

D) [1, 2, 3, 4, 5]

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Name: Date:

Section A: (10 Marks)

Question 3:

What is the output of the following code?

Code	
1	dic = {1:2, 2:3, 3:4}
2	print(dic.values())

A) [2, 3, 4]

B) [1 ,2, 3]

C) dict_values([1 ,2, 3])

D) dict_values([2, 3, 4])

Question 4:

What is the final value of lst after the following program is run?

Code	
1	lst = [1, 2, 3, 4]
2	lst.append(5)
3	lst+[6]
4	lst.pop(2)

A) [1, 2, 3, 4, 5, 6]

B) [1, 3, 4, 5, 6]

C) [1, 2, 4, 5, 6]

D) [1, 2, 4, 5]

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Name: Date:

Section A: (10 Marks)

Question 5:

Mode represents

A) the middle number that appears in a sorted list

B) the middle number that appears in an unsorted list

C) the number that appears the most in a list

D) the average value of a list

Question 6:

dic = {1:5, 2:4, 3:6, 4:2, 5:7, 6:10, 7:8, 8:6, 9:2}

What is the output of print(dic.keys())?

A) dic_values([[1, 2, 3, 4, 5, 6, 7, 8, 9]]

B) dic_values([5, 4, 6, 2, 7, 10, 8, 6, 2])

C) None

D) error

Question 7:

Which is the correct way to **remove** the key **marks** from a dictionary

student= {"name": "Emma", "class": 9, "marks":75}

A) student.pop("marks")

B) student.remove("marks")

C) student.popitem("marks")

D) student.delete("marks")

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Name: Date:

Section A: (10 Marks)

Question 8:

What is the indexing of "x" in the following list?

lst = [[1, 2, 3], [4, "x", 6], [7, 8, 9]]

A) lst[5]

B) lst[3][3]

C) lst[2][2]

D) lst[1][1]

Question 9:

From the list in Question 8, the value of lst[4][3] is

A) 9

B) 1

C) 0

D) error

Question 10:

Which is the correct way to get Emma's age - 27?

student= {1: ["Emma", 27, "Female"], 2: ["Mike", 17, "Male"]}

A) student[0][1]

B) student[1][0][2]

C) student[0][2]

D) student[1][1]

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Section B: (20 marks)

This section is a short coding question section.

Question 11 (2 marks)

Write a **Python code** to concatenate the following dictionaries to create a new one.

Sample Inputs	Sample Output
dic1={1:10, 2:20} dic2={3:30, 4:40} dic3={5:50,6:60}	{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Question 12 (2 marks)

Write a **Python code** to check whether a given key exists in a dictionary.

Sample Inputs	Sample Output
search_key = 9 search_space = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50}	Key 9 does not exist
search_key = 3 search_space = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50}	Key 3 has a value of 30

Question 13 (2 marks)

Write a **Python code** to print a dictionary that contains all the key numbers (between 1 and n) and its value in the form (x, x*x)

Sample Inputs	Sample Output
n = 2	{1: 1, 2: 4}
n = 5	{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

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Name: Date:

Section B: (20 marks)

This section is a short coding question section.

Question 14 (2 marks)

Write a **Python code** to iterate over the given dictionary to print the following format.

Sample Inputs	Sample Output
d = {'Red': 5, 'Green': 20, 'Blue': 3}	Red corresponds to 5 Green corresponds to 20 Blue corresponds to 3

Question 15 (2 marks)

Write a **Python code** to remove a given key.

Sample Inputs	Sample Output
key_remove = 'z' d = {'b':'happy','d':'sad','z':'hungry','y':'worried'}	{'b': 'happy', 'd': 'sad', 'y': 'worried'}

Question 16 (2 marks)

Write a **Python code** to create a dictionary from a string below

Sample Inputs	Sample Output
s = "logic"	{'l': 1, 'o': 1, 'g': 1, 'i': 1, 'c': 1}

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Section B: (20 marks)

This section is a short coding question section.

Question 17 (4 marks)

Write a **Python code** to find the common letters between the two strings.

Sample Input	Sample Output
"logic coders", "coding programme"	['o', 'g', 'i', 'c', 'd', 'e', 'r']
"Python" , "Java"	[]

Question 18: (4 marks)

Write a **Python code** to calculate the difference between the sum of each list. The different should always be a positive number.

Sample Input	Sample Output
[1, 2, 3, 4, 5], [3, 4, 5, 6, 7]	10
[1, 2, 3, 4, 5], [1, 2, 3, 4, 5]	0
[1, 2, 3, 4, 5, 4, 5], [3, 4, 5, 6, 7]	1

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Section C: (20 marks)

Question 19: (10 marks)

Write a **Python code** that prints "True" if the two lists are complements of each other. This means that means both lists are comprised of only 2 elements, a and b, and the occurrences of these elements are swapped between the two lists. Otherwise print "False".

In situations whereby the length of both lists are not equal, print "Different length". When any of the list contains elements more than 2 unique terms, flag them out as shown below.

Sample Input	Sample Output
[1, 2, 1, 2, 2], [1, 2, 1, 2]	Different lengths
[1, 2, 1, 2, 3], [1, 2, 1, 2, 2]	List 1 contains more than 2 unique terms
[1, 2, 1, 2, 2], [1, 2, 1, 2, 3]	List 2 contains more than 2 unique terms
[1, 2, 1, 2, 2], [1, 2, 1, 2, 2]	False
[1, 2, 1, 2, 2], [2, 1, 2, 1, 1]	True
[1, 2, 1, 2, 2], [2, 1, 2, 1, 2]	False

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Section C: (20 marks)

This section is a problem set section.

Question 20: (10 marks)

Jane owns a shop that sells apples. She tabulates the number of apples sold each day in the list shown below for 10 days. She prices each shirt at $0.50.

Salesqty = [104, 110, 180, 100, 120, 140, 160, 50, 120,160]

Write a **python code** to calculate the following. **You do not need to write a function.**

- (i)   The list of earnings over 10 days– 2 marks
- (ii)   The total amount of money Jessica has earned over the 10 days – 4 marks
- (iii)   The average amount of money Jane has earned over the 10 days – 4 marks

Sample Input	Sample Output
Salesqty = [104, 110, 180, 100, 120, 140, 160, 50, 120,160]	[52, 55, 90, 50, 60, 70, 80, 25, 60, 80] Jane earned a total of $622 over the 10 days Jane earns an average of $62.2 over the 10 days

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