

NATIONAL UNIVERSITY

OF COMPUTER & EMERGING SCIENCES PESHAWAR CAMPUS



Name: Roll No: Examination: Sessional - II

Semester: Fall 2017 Total marks: 20 Weight: 10

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Q. No.:	1	2	3	4	5	6	7	8	9	10	11	12	13	Sum	Sign
Scored:															
Total:	1	1	2	3	1	3	1	2	1	2	2	1	1		

- Attempt all questions on the question sheet in the provided space. Text outside the given space (or on another page) will not be read.
- Answer the questions as concisely as possible. Please keep your text within the provided space.
- You may use the back of each page for rough work and brainstorming.
- Think about the question before answering. You have a lot of time to solve the paper but every question would require time to see what the examiner wants. Do not rush.
- In case of objective type questions, pick the most appropriate answer and put a *checkmark* in the box to its left.
- For all questions which ask about output/result of code, assume you wrote just the code given in the question in a new notebook cell and no input was given to the interpreter before it.
- Have fun and enjoy the paper!

def a(n):

n = n * n

print n

1. If we run the following code in a python2 notebook, what will be the output:	
type(1/2)	Score
int	/1
2. What is a <i>docstring</i> and why is it needed?	
A docstring is a multiline string that describes	lhe
functionally of a function.	Score
	/1
3. Take a look at the following two functions:	

def b(n):

n = n * n

return n

What will be the value of these two call expressions: a(4) and b(4)?

al4) -> None Score / 2

4. Define a new function called f, that takes in one parameter – a real number x – and returns a value according to this formula:

$$f(x) = \sum_{i=1}^{30} \left[\left(\frac{2}{x^2} + \frac{3}{x^3} + \frac{4}{x^4} + \frac{5}{x^5} \right) \times i \right]$$

def
$$f(x)$$
:
 $v = \frac{2}{pow(x,2)} + \frac{3}{pow(x,3)} + \frac{4}{pow(x,4)} + \frac{5}{pow(x,5)}$
Sum = 0
for i in range (1, 31):
Sum += v * i

Score

/ 3

5. If we run the following code in the notebook, what will be the output:

Score

..... 6. Write a 3-line piece of code that uses loop(s) to produce the following four lines of output.

Score

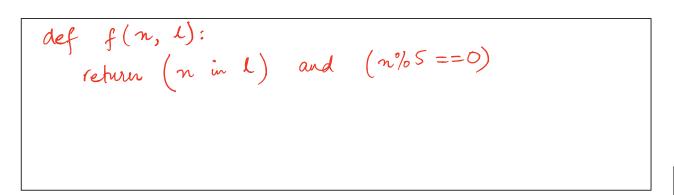
/ 3

7. What will be the output of the following code:

Score

Un bound Local Error

8.	Write a function that takes in a number and a list as input. It should decide if the number is present in the list and
	also if the number is a multiple of 5. The function should return True if both conditions are met and False otherwise.



Score

/ 2

9. Take a look at this list: digits =
$$\begin{bmatrix} 1, 5, 4, 6, 7, 9 \end{bmatrix}$$

9. Take a look at this list: digits = [1, 5, 4, 6, 7, 9] Write a snippet of code that retrieves the elements valued 5 to 7 (both inclusive).

Score

/ 1

10. Given a list (called nums) of 10 elements, write a two-line snippet of code that retrieves the *three highest values* from this list.

Score

/ 2

11. Given a dictionary (named conf) with no elements, write code to insert the following key, value pairs in the dictionary:

Key	Value
'host'	'autograder.pwr.nu.edu.pk'
'protocol'	'tls'

Score

/:

12. For the above dictionary, after executing your code, what will be the result of the following: len(conf)

Score

/ 1

13. Bonus question: In *PEP 8 – Style Guide for Python Code*, the authors talk about several stylistics factors of python code such as indentation. Name two more factors. (Just the names, no details.)

Read	the PEP!)	 Score
	······	/1

— end of exam —

For those without a sense of humor: The following is NOT a part of the exam. Ignore it.