

INTERNAL ASSESSMENT - III

PROGRAMMING METHODOLOGY IN PYTHON

Course Code - BCS1703

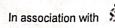
Date: Nov 21, 2024

Duration: 45 mins

Max Marks: 10

- 1. [1 mark x 2] Answer briefly in your own words:
 - a. When do we need to use a dictionary in python coding?
 - هر. State two differences between a set and a list in python.
- 2. [3 marks] You have the daily petrol prices over the last few weeks from various cities in India. Store this information in a suitable format, and write a python function that takes this information as input and returns the average petrol prices for each of these cities.
- 3. [3 marks] Given a positive integer, find and print the sum of all prime numbers from 1 up to this number. Do not define any functions.
- 4. [2 marks] What is this python code trying to do? And will they work as expected? If not, how will you fix them?

```
def new_func(numbers):
     result = []
     for num in numbers:
         calc = 1
         for i in range(1, num + 1):
             calc =* num
         result.append(calc)
    return result
new_func([4,6,3])
```









Internal Assessment - III

Linear Algebra

Course Code : BMA1010

Durition: 60 mins

Marks: 10

Instructions

You are allowed one A4 page for reference

• Latent - Predict how much you will get in this test. Write it on the first page.

• Don't Panic

1. Linear Transformation

Date: Nov 19 2024

[2 marks]

Write down the matrix for the following:

1.1. Transformation which rotates \hat{i} by θ anti-clockwise and \hat{j} by ϕ clockwise

1.2. Transformation that projects all the 2-D vectors on to the vector $\begin{pmatrix} -1\\2 \end{pmatrix}$

2. System of Equations

[2 marks]

Show whether the following system of equations has no solution, unique solution or infinitely many solutions:

$$x+y+z=2$$
$$y-3z=1$$
$$2x+y+5z=0$$

3. Eigenvalues and Eigenvectors (6,1) (4) (-1) Find eigenvalues and eigenvectors for the following matrix: [3 marks]

4. Instagram Influencer

6312

[3 marks]

You started an instagram account. I month after starting the account you had 750 followers. 3 months after starting the account you had 1500 followers. 5 months after starting the account you had 3000 followers. Calculate the best fit line and predict how many followers you will have 1 year after starting your account.

Assume that as soon as you started your account, you had some followers (Friends).



INTERNAL ASSESSMENT - II

PROGRAMMING METHODOLOGY IN PYTHON

Course Code - BCS1703

Date: Oct 17, 2024

Duration: 45 mins

Max Marks: 10

1. [1 mark x 2] Answer briefly in your own words:

a. Why do we need to use a list in python programming?

b. What is the difference between for and while loop?

2. Write a python function with proper syntax and indentation (function should return the required output, and not print anything to terminal):

✓a. [1 mark] Takes an integer n as input, and returns the sum of all even numbers from 1 to n.

b. [3 marks] The Drama Club of Sitare University is preparing for their annual play. Out of 40 students who auditioned for the roles, 15 were found to be suitable. However, the play requires only 6 actors. The director needs to find out the total number of different ways in which she can cast these roles.

3. [2 marks x 2] What are these python codes trying to do? And will they work as expected? If not, how will you fix them? And can you improve its efficiency?

find the sum of

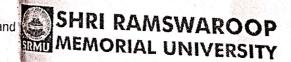
all integers from 1 to n
n = 14
sum_num = 0
for i in range(n)
sum num = sum num + i

print(sum_num)

def func(n):
 if n > 1:
 return False
 for i in range(2, n):
 if n % i == 0:
 return False
 return True

In association with







INTERNAL ASSESSMENT - III

Course Code - BHU1027

Introduction to Communication & Ethics

Max Marks: 10 **Duration:** 45 mins Date: Nov 18, 2023 Instructions: Attempt all sections. Write the full sentence. Attempt the paper in sequence. Complete the following sentences with 'will', 'would', 'may' or 'might': A. 1. Sneha is a brilliant student. She has been working really hard for a competitive clear her exams next year. examination. She wo 2. If you ask your sister kindly, she might let you borrow her bag. I borrow your pink bag? 3. Harsh has been accused of fraud. He _____ be arrested by Monday. 4. The dog is looking quite unwell. It wigh be suffering from worms. 5. You want to join your brother for the show in Paris. would you come with me to Paris? Fill in the blanks with correct tenses: _ (play) in the national level tournament for the past 5 years. 2. The cat usually steeps (sleep) in the backyard. 3. David by red (kill) Goliath and freed the villagers. _ (buy) groceries from the nearby market. 4. My grandmother buy (perform) at the National festival in Denmark, 5. The troupe of dancers which ______ is visiting our school next week.





C. Complete the sentences with could/	11/must/ma	y.
C. Complete the sentences with could	/ would/ should/inus	
C. Combiete me serve	the spirit of th	

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