



**Continuous Assessment Test (CAT) – I - August 2024**

Programme	:	MCA	Semester	:	Fall 2024-25
Course Code & Course Title	:	Python Programming	Class Number	:	PMCA602L
Faculty	:	Dr.B.Saleena	Slot	:	CH2024250103070
Duration	:	1 ½ Hours	Max. Mark	:	C1

**General Instructions:**

- Write only your registration number on the question paper in the box provided and do not write other information.

**Answer all questions**

Q. No	Sub Sec.	Description	Marks
1.		<p>Write a Python Code to automate the following information for an airline Company.</p> <ul style="list-style-type: none"><li>• Total capacity of the aeroplane is 150 seats. (1 Mark)</li><li>• There are two categories of classes namely Business class and the Economy class.(1 Mark)</li><li>• The user should enter the choice of the classes. The system should allocate the seat in the requested class if it is available. If not, the user should be asked the option of allocating seat in the other class. (3 Marks)</li><li>• Seats are numbered sequentially in each class. If the seats are not available in any of the class, the system should display a message "Flight is Full, and the next flight is after 3 hours". (3 Marks)</li><li>• After making a reservation the system should also display "Seat is confirmed" along with the seat number and the class.(2 Marks)</li></ul>	10
2.		<p>Create a list of 'N' even numbered nodes, the task is to read any number and check if it's prime and then insert the prime number after every two numbers in the original list. Write a python program to implement the above scenario and display both the original list and the output list.</p> <p><b>Example:</b> Input: List = 10,20,30,40 Output: Final List = 10,20,11,30,40,23</p>	10
3.		<p>Write a Python program to create a list and then extract the first two digits of each number in the list and store it in another list. The input list must contain only integer values. Use the output list to create a dictionary which will have all these elements which contain the elements as key and the value is the sum of digits of each element.</p> <p><b>Example:</b> Input: [123,155,261,147] Output: [12,15,26,14]</p>	10



Dictionary Values: {12:3,15:6,26:8,14:5}

Consider an input string which contains a sequence of words(Sentence). Write a python program to perform the following string operations with the input string. (2 Marks Each)

4.

- (i) Remove all vowels from a string and display the string
- (ii) Find and display the longest word from the sentence.
- (iii) Remove all the whitespace characters from the string .
- (iv) Convert the string to all uppercase and lowercase letters.
- (v) Check if a string is a palindrome or not.

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Write a python program using regular expressions and their methods to perform the following tasks.

a)

Consider the list given below.

["rediffmail3 (.com)", "programming", "kaggle2 (.com)", "stack1underflow2 (.com)"] (4 Marks)

- (i) Remove the parenthesised segment in the string  
(Expected Output: rediffmail3, programming, kaggle2, stack1underflow2)
- (ii) Remove the digits/numbers from the string  
(Expected Output: rediffmail, programming, kaggle, stackunderflow)

5.

b)

Consider the string given below

S1="Keep ,your eyes \*on the stars? and your feet on\n the ground" (6 Marks)

- (i) Split the string based on the delimiters  
(Expected output: ['Keep ', 'your eyes ', 'on the stars', ' and your feet on', ' the ground'])
- (ii) Find all the words that are at least 4 characters long from the given String S1  
(Expected output: ['Keep', 'your', 'eyes', 'stars', 'your', 'feet', 'ground'])
- (iii) Find the occurrences of the substring "your" and their positions in the string S1  
(Expected output (Found "your" at 6:10 Found "your" at 35:39))

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\*\*\*\*\*All the best \*\*\*\*\*