Roll No. : ……

Bharati Vidyapeeth's

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SECOND SEMESTER [MCA Internal Examination, March 2024]

Paper Code: MCA 106 **Subject: Python Programming**

Time: 2 Hours **Maximum Marks: 45**

Note: Attempt THREE questions in all. Question No. 1 is compulsory, and attempt one question from each unit.

1.	Answer all the following questions briefly: -			1.5 × 10 = 15
	(a)	Differentiate between list and tuple.		CO1
	(b)	List three features of Python Programming.		CO1
	(c)	Enlist various types of arguments?		CO2
	(d)	Demonstrate the difference between formal and actual arguments with help of an example.		CO2
	(e)	Mention different types of data structures in Python.		CO2
	(f)	Are sets mutable? Justify.		CO1
	(g)	Elaborate different files modes.		CO2
	(h)	Articulate three different ways of creating dictionary.		CO3
	(i)	Differentiate between append() and extend() function.		CO2
	(j)	What is subscript operator. Explain with example.		CO2
		UNIT - I		
2.	(a)	Implement a function to find third largest element in list without using built-in function.	5	CO2
	(b)	Implement a Python program to print Pascal's triangle up to n rows, where n is provided by the user. 1 1 1 1 2 1 1 3 3 1	5	CO3
	(c)	Elaborate various types of functions with examples.	5	CO2
3.	(a)	Explain various types of escapes sequences with example.	5	CO2
	(b)	Develop a number guessing game where the computer generates a random number between 1 and 100, and the user has to guess it within a certain number of attempts. Use loops to allow multiple attempts until the user guesses correctly or runs out of attempts.	5	CO2

	(c)	Write a python program that prints Armstrong numbers in the range of 1 to 1000. An Armstrong number is a number whose sum of the cubes of digits is equal to the number itself. For example: $370=3^3+7^3+0^3$.	5	CO2
		UNIT – II		
4.	(a)	Write a function that takes a string as a parameter and returns a string with every successive repetitive character replaced with a start (*). For Example, 'balloon' is returned as 'bal*o*n'.	5	CO3
	(b)	Apply the concept of strings to check if two given strings are anagrams of each other. Anagrams are words or phrases formed by rearranging the letters of another word or phrase, using all the original letters exactly once. Eg = "Silent" and "Listen" are anagram	5	CO2
	(c)	Develop a Python function to produce the following output: $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $	5	CO2
5.	(a)	Develop a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding uppercase letter and rest of the letters in the word by corresponding letters in lowercase without using built-in function.	5	CO2
	(b)	Write a function that takes *n* as an input and creates a list of *n* lists such that i^{th} list contains first five multiples of i	5	CO3
	(c)	Build a program to remove duplicate values from dictionary.	5	CO3