U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2024 Semester End Main Examinations

Programme: B.E. **Semester: I / II**
Branch: Common to all Branches **Duration: 3 hrs.**
Course Code: 22CS1ESPYP / 22CS2ESPYP **Max Marks: 100**
Course: Introduction to Python Programming

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			UNIT - I	*CO*	*PO*	Marks
1	a)		Write a python code to demonstrate the working of a simple calculator.	*CO3*	*PO3*	**6**
	b)		Write a Python program to input student name, marks1, marks2 marks3 and USN. Calculate the percentage. Display "Excellent" if percentage is >90, "Very Good" if percentage is in between 80 to 90, "Good" if percentage is in between 70 to 80. Print "Improve if none of the above specified condition is met.	*CO3*	*PO3*	**7**
	c)		Explain the working of for and while loop in detail with appropriate code snippets.	*CO1*	*PO1*	**7**
			UNIT - II			
2	a)		Write a program to create a new string made of an input string's first, middle, and last character.	*CO1*	*PO1*	**6**
	b)		Write a python program to remove the nth character from the given string. (Take n from the user)	*CO3*	*PO3*	**7**
	c)		Write a Python program to print the largest number from a list of numbers entered by the user. (Do not use the inbuilt function max)	*CO3*	*PO3*	**7**
			UNIT - III			
3	a)		Write a program to count the frequency of occurrence of each character in a given string. Use a dictionary to store the character as key and the number of occurrences as value.	*CO3*	*PO3*	**5**
	b)		Write a python program to identify duplicate values in a tuple.	*CO3*	*PO3*	**5**
	c)		Write a python code to include the following functions: Function star() - Prints the pattern * * * * * * * * * * * * * * *	*CO1,3*	*PO1,3*	**10**

			Function hash() - Prints the pattern # ## ### #### ##### Function num_pattern() - Prints the pattern 1 2 3 4 5 6 7 8 9 10 Use appropriate looping in each of the functions and display the patterns.			
			OR			
	4	a)	The college decides to give scholarship to students scoring a CGPA of more than 9.0. Given a dictionary containing USN:CGPA as key value pairs, write a python program to create a new dictionary containing the details of students eligible for scholarship.	*CO3*	*PO3*	**5**
		b)	Write a python program to remove an element from a tuple.	*CO3*	*PO3*	**5**
		c)	Write a python code to include the following functions. The purpose is to plan a budget for a trip. Function 1: travel() - Ask the user for number of kilometres. - Travel charges in bus is 20 per km and that in car is 15 per km. Function 2: shopping() - Each item costs Rs 500. - Ask the user for the number of items he plans to buy. Function 3: amusement() - If the user wants to ride in less than 5 rides the cost is 200 else its 300 Call these functions and print out the total cost of the user's trip.	*CO1,3*	*PO1,3*	**10**
			UNIT - IV			
	5	a)	Create a class Employee to have the following: • Variables name, emp_id, designation • A constructor to initialize these values • A method salary_calc that accepts basic salary as parameter, adds 10000 if designation is "Clerk" and adds 12000 if designation is "Manager". Create 3 objects and call the appropriate method.	*CO3*	*PO3*	**10**
		b)	Explain operator overloading and demonstrate the overloading of + and * operators using appropriate code.	*CO1*	*PO1*	**10**

			OR			
	6	a)	Develop a python program to create a digital wallet system. The system should include the following features. i. Create classes for wallets, transaction, and users. ii. The wallet class should include methods for adding funds, making payments, and displaying transaction history.	*CO3*	*PO3*	**10**
		b)	Create a main class car. Formulate two child classes electric car, and petrol car. The child class should include the attributes like make, colour, price and range.	*CO3*	*PO3*	**10**
			UNIT - V			
	7	a)	Write a program to read a file and print the number of lines, words and characters in the file.	*CO3*	*PO3*	**6**
		b)	Write a program to write the content "It is a lovely day" into the file. Also append the line "Be good, do good" to the same file.	*CO3*	*PO3*	**6**
		c)	Describe regular expressions and elaborate on findall(), search(), sub() and split() methods with sample code for each.	*CO1*	*PO1*	**8**

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