Total No. of Printed Pages: II

PRN No.	

PAPER CODE	V124-313

May 2024 (ENDSEM) EXAM

F.Y.B. TECH. (SEMESTER - II)

COURSE NAME: Problem Solving And Programming **Branch: AIDS** **COURSE CODE: ADUA12234**

(PATTERN 2023)

Time: [1Hr. 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **All questions are compulsory. Solve any one sub question from each Question 1 and 2 and any three sub questions each from Questions 3 and 4.**

Q. No.	Question Description	Max. Mark	CO mapped	BT Level
Q.1	a) Write an algorithm and python code to Convert Kilometers to Miles	[5]	CO1	Apply
	b) Write pseudo code and draw flowchart to Swap two variables.	[5]	CO1	Apply
Q2	a) What will be the output of the following Python code? str1= "Best Of Luck" print(str1[0:6]) print(str1[::1]) print(str1[-3:]) print(str1[-2:-19:-2]) print(str1[1:9:-2])	[5]	CO2	Apply
	b) Explain any 5 string functions with example split(),index(),count(),len() and capitalize(),islower()	[5]	CO2	Understand
Q.3	a) State with example difference between for and while loop. Draw the flowchart to display table of any given number using for and while loop.	[5]	CO3	Apply
	b) Write a python program to read marks in percentages from student and find the grade of it as per below condition: Above 75% : 'Distinction' 60% to below 75%: 'First Class' 50% to below 60%: 'Second Class' 40% to below 50%: 'Pass Class' Below 40%: 'Failed'	[5]	CO3	Apply
	c) Write an algorithm and draw flowchart for recursion function to find the Factorial of any given number.	[5]	CO3	Apply

	d) Draw flowchart for following problem statement 1.To find sum of series 1+2+3+...+n 2. Find Factorial of a given number using for loop	[5]	CO3	Apply
Q.4	a) State with example following set methods and operators (out of 4 solve any 2) 1. difference() method and –operator 2. intersection() method and & operator 3. union() method and | operator 4. symmetric_difference() method and ^ operator	[5]	CO4	Understand
	b) State all concatenation tuple methods and explain any 4 with example.	[5]	CO4	Understand
	c) What will be the output of the following Python code? (out of 3 solve any 2) 1. cmp = ['Python', 'Programming'] tech = ['orange', 'orange', 'orange'] cmp.append(tech) print(cmp) 2. a=["10","B","11",["C"]] b =list(a) a[3][0]="11" a[1]="F" print(b) 3. numbers = [100, 200, 300, 400] numbers.sort(reverse=True) print('Reversed List:',numbers) 4. My_list=["ABC",23,56.67,[1,2,5,7]] print(My_list[0][-1]) 5. s = {'g', 'e', 'k', 's'} print(s.clear())	[5]	CO4	Apply
	d) write down the code to display following output From given list-dictionary data type. Test1=[{'College': 'VIIT','Department':'AIDS', 'Class': 'First year'}, 100,200,300,['parent', 'son', 'daughter', {'socks1': 'red', 'socks2': 'blue'}]] a) {'College': 'VIIT', 'Department': 'AIDS', 'Class': 'First year'} b) {'socks1': 'red', 'socks2': 'blue'} c) red d)dict_keys(['College', 'Department', 'Class']) e)200	[5]	CO4	Apply