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PRN No.	

PAPER CODE	U124-343

May 2024 (ENDSEM) EXAM

F.Y.B. TECH. (SEMESTER – II)

COURSE NAME: Problem Solving and Python Programming **Branch: CSE (AI)** **COURSE CODE: CA12233**

(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. Marks	CO mapped	BT Level
Q.1	a) List out different techniques used in problem solving with summarization of each one. Illustrate the approach of solving a problem about finding minimum element in a list with pseudo code.	[5]	1	Understand
	b) Interpret Object Oriented approach used in solving the computational problems. Give Student information system as one of the examples of Object Oriented approach with detail pseudo codes.	[5]	1	Understand
Q2	a) Identify different data types supported by python with examples utilizing each data types.	[5]	2	Apply
	b) Explain slicing operators in python programming language with string related examples illustrating its utilization.	[5]	2	Apply
Q.3	a) Develop the python program examples utilizing while loop, break and continue statements and examine each one in detail.	[5]	3	Apply
	b) Make use of user defined function constructs and write a python program which contains a function to generate Fibonacci series using a list.	[5]	3	Apply
	c) Illustrate the utilization of recursion in program developments with a python program to generate factorial of the given number.	[5]	3	Apply

	d) Employ lambda function approach and write a Python program to count the even and odd numbers in a given array of integers.	[5]	3	Apply
Q.4	a) Examine how the values stored in a list are accessed in python? Should the elements of a list be of the same data type?	[5]	4	Apply
	b) Illustrate how python's dictionaries store data with utilization of three different data types in example programs.	[5]	4	Apply
	c) Identify the use of tuples as compare to list in python programs. How to add elements to the tuple illustrate with example code?	[5]	4	Apply
	d) Explain the addition and deletion operations in a list data structure with example python program containing comments to interpret the working details.	[5]	4	Apply