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TERM END EXAMINATIONS (TEE) – December 2021- January 2022

Program	: B.Tech. & Int. M.Tech	Semester	: Fall_2021-22
Course	: Introduction to Problem Solving and Programming	Code	: CSE1021
Faculty	: Dr. S.Poonkuntran	Slot/ Class No.	: B11+B12+B13
Time	: 1 ½ Hour	Max. Marks	: 50

Answer ALL the Questions

Q.No.	Question Description	Marks
PART - A (30 Marks)		
1	(a) Write an algorithm for finding a given book in a collection of 1000 books by their name.	10
OR		
	(b) Write a python program using the function for the following. 1. Read any two numbers and two characters of user choice. 2. Create a string from the above characters and numbers as follows. <u>First Character</u> <u>Second Number</u> <u>Second Character</u> <u>First Number</u>	10
2	(a) Write a python program for the following. 1. Read 50 integer numbers from the user. 2. Sort them in ascending order. 3. Remove 30% of Top and Bottom Numbers. 4. Calculate the average for the remaining numbers. 5. Print the average.	10
OR		
	(b) Write a python program to read the list of 10 fruit names. Display the names of the fruits through looping as follows. The total number of iteration should be equal to the number of elements in the list. The iteration will start from 1 and goes up to the number of elements in the list. For every iteration, the number of fruit names should be chosen randomly and it must be displayed on the screen. The number of fruit names to be chosen is the same as the iteration number.	10
3	(a) Exemplify any two logics for computing GCD of two numbers using Python program. Highlight the pros and cons of both the logic.	10
OR		
	(b) Develop a python program to read a matrix of size 5x5 in row-major order. Display only the diagonal elements which are divisible by 5 and 3 & ended with 5.	10

PART - B (20 Marks)

4 XYZ is an online shopping company that announces the offers for their customers as follows. 10

1. Customers, who are purchasing items worth Rs.10000, will be given an offer to purchase worth Rs.4000 items free.
2. Customers, who are purchasing items worth Rs.5000, will be given an offer to purchase worth Rs.2000 items free.
3. Customers, who are purchasing items worth Rs.2500, will be given an offer to purchase worth Rs.1000 items free.
4. In other cases no offer is applicable.

Write a python program to demonstrate the above scenario and provide the applicable offer to the customers on their total purchase values.

5 ABC is a grocery shop selling grocery items in 5 categories. They are rice, cooking oil, biscuits, bakery items, and utensils. In every category many items are available. For example, Gingelly oil, Rice bran oil, sunflower oil & mustard oil are available under cooking oil. 10

Write a python program to keep the list of items with categories. Calculate the number of items in every category and order them based on it.

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