

END SEMESTER EXAMINATION <u>Jan</u>-2023 PROGRAM: B.Tech. SEMESTER-II

Course: Computational Thinking and Problem-Solving Using

Course Code: 22CSE101

Python

Program: B.Tech (All Branches)

Max. Marks: 100 Max. Time: 3 hours

Exam ID:

1. Write your ID number in the question paper at the place specified for it

2. Ensure that you have entered all the details on the answer book and have obtained Invigilator's signature

3. Do not write/mark anything on the question paper

4. Using question paper for rough work is strictly prohibited

Section – A (Answer all questions. Each question carries 5 marks) (5X5=25)

No.	Question	CO	Marks
Q.1	Draw the flow chart symbol for the following operations: (a) Input/Output (b) Flow Lines	CO1	5
и 1 и 1	(c) Decision Making(d) Start/End(e) Direction of Process Flow		
Q.2	Design/Develop an algorithm to find distance between two points. Convert your algorithms into a python program.	CO1	5
Q.3	Outline the Object-Oriented Programming concepts? Explain its 4 main pillars.	CO1	5
Q.4	Write a python program to check if a number palindrome or not.	CO2	5
Q.5	Illustrate difference, looping structures in python with example for each.	CO2	5

Section - B (Answer all questions. Each question carries 10 marks) (5X10=50)

No.	Question Explain nested-if and draw the flow chart of nested-if with an example.		Marks	
Q.6			10	
Q.7	Differentiate direct recursion and indirect recursion with an example.		VE 15 a	
	ti dal berskung pade ar ripagagar ar ripagagaran da da in da	CO2	10	
Q.8	Define the below operations on string with an example of each:	anvasin	BUNGERS See of	
	(a) Indexing (b) Slicing	CO2	10	
	(c) Concatenation	7	-	
	(d) Repetition			
	er en	40111	ydga(). Hal	
Q.9	Demonstrate the python program to print 2×2 matrix multiplication.		10	
Q.10	Show the working of the following file handling operations:	i de la composición della comp		
	(a) r: (b) w:	eljavaje nu dete	eşlerili. Bizərba i	
	(c) a: (d) r+:			
	(e) w+: (f) a+:	CO3	10	
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Section - C (Answer any one question. Question carries 25 marks) (1X25=25)

No.	Question	CO	Marks
Q.11	You are a marvel fan and want to create a list of superheroes as follows: Avengers = ['Iron Man', 'Captain America', 'Black Widow', 'Hulk', 'Thor', 'Hawkeye'] Using the list operations write a python program for the following:	3	
	 (a) Calculate how many members are there in the avengers team. (b) Iron Man created a new member name as Spider Man, in the above list. Add him to the existing list. (c) Captain America is the Leader of the Avengers; You need to add him before the Iron Man. So, remove him from the list and add before the Iron Man. (d) You don't like Thor and Hulk together because they get angry easily and fight with each other. So, you must separate them from each other. To separate them either move "Black Widow "or "Hawkeye" in between them. (e) After Avengers: End Game the original six avengers are retired, now you need to remove them from your list and add new superheroes like Doctor Strange, Vision, Wanda, Kate, Bishop, and Ant-man. 	CO2	25
	OR		

Q.12	Write a pytho rows such tha	on function that will take n as input and print the pattern of n at if the n is even, the output should be flipped.		-
	Example:			_
	n=3	the or or pay our quarton them in earths 25 and 64) (The	CO2	25
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