

EVEN SEMESTER EXAMINATION, 2023 – 24

IInd yr B.Tech.

PYTHON PROGRAMMING

Duration: 2:00 hrs

Max Marks: 50

Note: - Attempt all questions. All Questions carry equal marks. In case of any ambiguity or missing data, the same may be assumed and state the assumption made in the answer.

Q1.	<p>Answer any two parts of the following.</p> <ol style="list-style-type: none"> Write a python program to enter the marks of five subjects, compute the percentage, and display the grade. Write a python program to check the number of prime numbers in a range of numbers. Write a python program to print the reverse of a string. 	5x2=10
Q2.	<p>Answer any two parts of the following.</p> <ol style="list-style-type: none"> Write a python program to count the number of matching characters in the pair of strings. Given the string text = "PythonProgramming". Perform the following slicing operations on given string: <ol style="list-style-type: none"> Slice the string to obtain the first 6 characters. Extract a substring that includes the characters from index 6 to index 13. Slice the last 5 characters from the string. Create a new string by slicing and concatenating the first 4 characters and the last 3 characters Write the output of the following code: <ol style="list-style-type: none"> <pre>tuple1 = (1, 2, 4, 3) tuple1[2]=5 print(tuple1)</pre> <pre>var1=("abc",34,True,40,"male") out=var1.append(0) print(out)</pre> <pre>test = {1: 'A', 2: 'B', 3: 'C'} del test[1] test[1] = 'D' del test[2] print(len(test))</pre> <pre>S1 = {"a","b","c"} S2={1, "a", 5, 3, "c"} S3= S1.Symmetric_difference(S2) S1.discard("b") print(S3) print(S1)</pre> 	5x2=10
Q3.	<p>Answer any two parts of the following.</p>	5x2=10

	<p>a) Write a python program to create a dictionary containing six elements that represents a student's grades. The dictionary should contain the student's name as the key and a set of their subject marks as the value. Perform the following operations on dictionary:</p> <ol style="list-style-type: none"> 1. Display all the elements in dictionary using loops. 2. Calculate the average grade for each student and display the student with the highest average grade. 3. Update the marks of students with last three grades and show the updated dictionary. 4. Display the keys and values in dictionary. 5. Display the common marks obtained by student1 and students 2. <p>b) Write a program to generate two sets, each containing 15 random numbers between 50 and 100. Then, perform the following operations:</p> <ol style="list-style-type: none"> 1. Find and display the common numbers that appear in both the lists. 2. Identify and print the unique numbers present in both the lists. 3. Calculate and display the minimum value in both the lists. 4. Compute and print the sum of all the numbers in both the lists. <p>c) Write the output of the following programs:</p> <ol style="list-style-type: none"> 1. <pre>sample = { "name": "Kelly", "age": 25, "salary": 8000, "city": "New york"} keys = ["name", "salary"] sample_dict = {k: sample[k] for k in sample.keys() - keys} print(sample_dict)</pre> 2. <pre>import string Line1 = "And Then There Were None" Line2 = "Famous In Love" Line3 = "Famous Were The Kol And Klaus" Line4 = Line1 + Line2 + Line3 print("And" in Line4)</pre> 3. Create a 1D array of 9 elements using numpy module and reshape it into 2D array of size 3×3. 	
Q4.	<p>Answer any two parts of the following.</p> <ol style="list-style-type: none"> a) Write a python program to Create a scientific calculator using a math module or inbuilt math functions. b) Write a python program using functions to simulate the tossing of a coin five times and compute and display the probability of occurrences of the head. c) Write a python program to create a 2D array of size 3 × 4 containing random values and perform the following operations on arrays: <ol style="list-style-type: none"> 1. Compute sum of array along the rows, columns and overall sum of array. 2. Create a subset of the array of size 2 × 2 from the original array. 3. Insert the new columns in the original array and display the shape of the updated array. 4. Convert the array into matrix and perform the multiplication of matrix with itself. 5. Permute the dimensions of the original array. 	5x2=10

Q5.	Answer any two parts of the following. a) Write a Python program that: 1. Creates a file named "numbers.txt" inside a specific directory in both read and write mode. ('E:\files\python\filehandling'). 2. Verify if the above created file is present in the specified directory or not. 3. Create a file with its name as 'day-month-year-hours-minutes-seconds' 4. Write a code to add some content at the end of the file using proper access mode. b) Write a python program that manages exceptions during file operations. The program should perform the following tasks: 1. Prompt the user to input the name of a text file. 2. Read the contents of the specified file. 3. Convert the text to uppercase. 4. Write the modified content back to the same file. c) Write a python program that: 1. Creates a text file named "demofile" in read mode. 2. Read first five characters of the file. 3. Read one line of the file. 4. Read the content of the whole file. 5. Rename the file after checking whether it exists and delete the file.	5x2=10
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