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IV SEMESTER B.TECH. (COMPUTER SCIENCE & ENGINEERING)

END SEMESTER MAKEUP EXAMINATION, JUNE 2019

SUBJECT: OPEN ELECTIVE – PYTHON PROGRAMMING [CSE 3292]

REVISED CREDIT SYSTEM (21/06/2019)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Missing data may be suitably assumed.

- 1A. With proper justification or code snippet, state any four advantages 4M and disadvantages of python programming language.
- 1B. Explain decision making using if...else...elif statements in python 3M with a coding example that uses nested if to check whether a number is positive, negative or zero.
- 1C. With a code snippet explain the python left to right, right to left 4M and non-operator associativity. Also Write a Python program to calculate midpoints of a line by inputting coordinates of a line.
- 2A. Write the syntax of for loop in python language and discuss 3M different arguments of range() function used along with for loop. Also demonstrate with a single code snippet, the use of break and continue statements in both for and while loops.
- 2B. Using while loop, write a python program to read two numbers and 3M find the LCM and HCF.
- 2C. What are the advantages of lists compared to arrays and tuples? 4M Create a list containing names of high-level programming languages, traverse through this list using a loop and print the elements present. Also write a python program to read a sentence from the user, convert it to a list of characters and split a list every Nth element (N to be read from the user).
- 3A. Write a Python program to create two lists of colors using append 3M function and compute the difference between two lists.
- **3B.** Explain the following function parameter options with appropriate **2M** function code snippets:
 - (i) Positional parameters CSE 3292

- (ii) Positional parameters with default values
- (iii) Variable numbers of arguments.
- 3C With appropriate code explain, Split, Join and Strip methods in 5M python string library. Also, write a Python function that accepts a string and calculate the number of upper-case letters and lower case letters
- 4A. Consider the following dictionary. Write a program to perform the 4M following operations on the dictionary based on the choice input by the user. Program has to update dictionary by accepting choice in a while loop and exit only when '0' is the choice.

my_dictionary = {"google": "it is a search engine, provides you the information related to your query.", "youtube": "it is video-sharing portal, provides you to watch and upload videos.", "codescracker": "it is a computer programming portal, where one can learn and find exclusive codes.", "english": "it is a language."}; Operations to perform based on choice: 0 - Exit 1 - Search for Word 2 - Add Word to Dictionary 3 - Update a Word

- 4 Delete a Word from Dictionary
- 4B. Give the proper syntax for the following file operations in python 4M along with a clear description of arguments in the methods: Open, Read, Write, Seek. Using these file operations write a program to copy the contents of one file to another file.
- 4C. Write a NumPy program to create a 2d array with 1 on the border and 2M 0 inside.
- 5A. What is the advantage of numpy array over list? Write a program to 2M reverse an array using numpy.
- 5B. Write a python program to create a Student database with STUDENT_INFO as 4M the only table. Table schema is as follows: (Name TEXT, Rank INT). Write a query to populate the table with students information, a query to update any student's data and query to retrieve names of all students whose rank is less than 30.
- 5C. Describe different components of python GUI. Write a simple window 4M with a button in it. On pressing the button toggle a text from "Hello" to "World" and display the same in the window.