Reg No.



ANIPAL INSTITUTE OF TECHNOLOGY

IV SEMESTER B.TECH. (COMPUTER SCIENCE AND ENGINEERING) **END SEMESTER MAKE-UP EXAMINATIONS, MAY 2017** SUBJECT: PYTHON PROGRAMMING [CSE 3292]

REVISED CREDIT SYSTEM

(23/06/2017)

TIME: 3 HOUR

TIME : 3 HOUR MAX.MARK		
 Instructions to the Candidates Answer ANY FIVE full Questions. Missing data can be suitably assumed 		
1A.	What is Python? Why do you to learn and Where to use Python?	3M
1B.	"The Python interactive shell attempts to evaluate both expressions and statements".	
10	Justify your answer with an example.	2 M
IC.	1) What is chained assignment? Explain with an example.	
	ii) List and explain the kinds of errors in Python with an example.	
	iii) Consider the following Python code fragment, What will the code print if the	
	variables $i = 7$, $j = 5$, and $k = 3$ values?	
	# i, j, and k are numbers	
	if i < j:	
	if j < k:	
	$i = j^{*}(-1)$	
	else:	
	$j = k^{**}(-1)$	
	else:	
	if $j > k$:	
	j = i//1	
	else:	
	i = k% 1	
	print("i =", i, " j =", j, " k =", k)	5M

- 2A. Write a Python program named as 'addnonnegatives.py', which allows a user to enter any number of non-negative integers. When the user enters a negative value, the program no longer accepts input, and it displays the sum of all the non-negative values. If a negative number is the first entry, the sum is zero. (Use while loop and do not use built-in function)
- 2B. Write a Python function program named as 'dice.py', which simulates the rolling of a dice. Roll the dice three times and generate random number in the range 1....6. print in the form of dice (Use for loop and built in function).
- i) What is Slicing? Write the syntax of Slicing and explain with an example. 2C. ii) Consider the following functions description and write a Python function program named 'listpermutations.py', which generates all the permutations of a given list [1, 2, 3, 4].

2M

3M

- The function *permute(prefix, suffix)*, recursively shifts all the elements in suffix into prefix producing all the permutations of suffix. Prints all permutations in lexicographical order.
- The function *print_permutations(lst)*, calls the recursive *permute* function to display all the permutations of the elements of *lst* in lexicographical order. The empty list is passed as the first parameter to *permute*, and the list to *permute* is passed as the second argument.

Show the functions which are called from the main function. (Do not use built in function) 5M

3A. 3A. What is dictionary? Consider a dictionary named as 'Released', which has initially six key-value pairs, where iphone is the key and years the values. Released = {"iphone": 2007, "iphone 3G": 2008, "iphone 3GS": 2009, "iphone 4": 2010, "iphone 4S" : 2011, "iphone 5" : 2012 } Write a python code to perform below mentioned operations. i) print the details of release. ii) Add a "iphone 5S": 2013 value to the dictionary and print the dictionary. iii) Remove the key "iphone" from dictionary and print the dictionary. iv) Check if a key "iphone 5" exists in a given dictionary, print 'key found' otherwise 'No key found' (use for loop) v) Print only the keys from the dictionary. vi) Print only the values from the dictionary 4MConsider the tuple elements = ('Air', 'Water', 'Fire', 'Light', 'Land) and predict the output 3B. of the following statements. i) print(elements[-3]) ii) print(elements[-1]) iii) print(elements[4]) iv)print(elements[5]) 2M i)Write the syntax of open function and briefly discuss its parameters. 3C. 2M ii)Write a Python program to do the following: Create a file named "info.txt" Write 10 student names into the file Open the file "info.txt" again to read a single byte and display Open the file again to read 10 bytes and display What is the current file position? How do you output the current file position? If again 10 bytes from the beginning of the file is to be read, what you do? 2M 4A. The contents of "quote.txt" is as follows. "You'll never be brave if you don't get hurt. You'll never learn if you don't make mistakes. You'll never be successful if you don't encounter failure." Write a python program to do the following. i) Create a module *linecount* and create a function *lc(filename)* to count the number of lines in the given filename 'quote.txt' as argument. ii)Import *linecount* and show the usage of *lc* function 2M 4B. Consider the following matrices of order 3x3: A = ((1, 2, 3), (4, 5, 6), (7, 8, 10)) and B = ((7, 8, 10), (4, 5, 6), (1, 2, 3))Write a python program to perform the following using Numeric Python (numpy). i) Add and Subtract of the Matrices 'A' and 'B', print the resultant matrix C for add and E for subtract. ii) Compute the sum of all elements of Matrix A, sum of each column of Matrix B and

sum of each row of Matrix C

- iii) Product of two matrices A and B, and print the resultant matrix D
- iv) Sort the elements of resultant matrix C and print the resultant Matrix E.
- v) Transpose the Matrix E and print the result
- 4C. Assume that we wish to maintain a database that contains the flight information of an airline during one particular year. This database maintains information about flights, pilots, and assignments of pilots to flights. Each flight has a unique flight number, a departure city, a destination city, a departure time, and an arrival time. Each pilot has a unique company ID, a name, and an experience. Pilots are assigned to fly certain flights on particular days of the year. The table schema are as follows:

Flight (flight_number, Dept. city, Dest. City, Dept. time, Arrival time)

Pilot(CompanyID, Name, Experience)

Assigned_to(CompanyID, Flight_number, Date)

Create a database 'airline.db' and write a Python program to perform the following tasks using SQLITE.

- i) Write a create statement to create tables (Flight, Pilot, and Assigned_to).
- ii) Write an insert statements to insert suitable data to tables (Flight, Pilot and Assigned_to).
- iii) Write a query to retrieve the data from the tables (Flight, Pilot and Assigned_to).
- 5A. Develop User interface for Simple calculator and consider the UI layout as shown in Figure 1.



Figure 1 Calculator

Write a Python Program to perform following tasks.

i) Write a user defined function 'get_variables(num)', which gets the user input for operands and puts it inside the entry widget when button(0/1/2/3/4/5/6/7/8/9) pressed.

ii) Write a user defined function 'calculate()', which evaluates the expression when button '=' pressed.

iii) Write a user defined function 'clear_all()', which clears all the content in the Entry widget when button 'AC' pressed.

iv)Add the buttons, text box, and show the simple arithmetic operations ('+'/'-'/'*'/') when button '='pressed. 5M

- 5B. What is CGI? Briefly discuss the n-tier architecture with neat a diagram.
- 5C. What is Django? Why do you need Django?

-ALL THE BEST-

3M

2M

4M