CSOE01

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RAMAIAH
Institute of Technology

(Autonomous Institute, Affiliated to VTU)
(Approved by AICTE, New Delhi & Govt. of Karnataka) Accredited by NBA & NAAC with 'A' Grade

SEMESTER END EXAMINATIONS – JANUARY 2020

Program	:	**B.E. : Common to all Programs**	**Semester**	:	**VII**
Course Name	:	**Python Application Programming**	**Max. Marks**	:	**100**
Course Code	:	**CSOE01**	**Duration**	:	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT-I

1. a) What are nested conditionals and chained conditionals? Explain with an example each. CO1 (06)

   b) Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1000 and 2500 (both included). CO1 (06)

   c) i) Write a Python program that accepts a word from the user and reverse it. CO1 (08)

   ii) Write a Python program to construct the following pattern, using a nested for loop.

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

2. a) Bring out the differences between the compiler and an interpreter. List and explain the three kinds of errors in a program. Give examples. CO1 (06)

   b) List the logical operators. Explain with an example how python does the short circuit evaluation of the expressions using logical operators. CO1 (06)

   c) i. Write a Python program in which a student enters the number of college credits earned. If the number of credits is greater than 90, 'Senior Status' is displayed; if greater than 60, 'Junior Status' is displayed; if greater than 30, 'Sophomore Status' is displayed; else, 'Freshman Status' is displayed. CO1 (08)

   ii. Write a Python program that allows the user to enter a four-digit binary number and displays its value in base 10. Each binary digit should be entered one per line, starting with the leftmost digit, asshown below.

```
Enter leftmost digit: 1        Enter the next digit: 0
Enter the next digit: 0        Enter the next digit: 1
The value is 9
```

UNIT-II

3. a) Define dictionary in python. List and Explain the useful built-in methods in dictionary, with an examples. CO2 (08)

   b) Explain the Pure functions and modifiers using list, with an examples. CO2 (06)

   c) i) Write a Python function to create and print a list where the values are square of numbers between 1 and 20 (both included). CO2 (06)

   ii) Write a Python function to multiply all the numbers in a list.

4.	a)	Explain list aliasing and slicing, with an examples.	CO2	(06)
	b)	i) Write a python program to merge two lists and sort it.	CO2	(08)
		ii) Write a python program to put even and odd elements in a list into two different list.		
	c)	Write a Python function that accepts a string and calculate the number of upper case letters and lower case letters.	CO2	(06)

UNIT-III

5.	a)	What are modules? Describe the three different ways to import names into the current namespace, and to use them with an example.	CO3	(06)
	b)	Explain with example the various methods available in the math module and the time module.	CO3	(06)
	c)	i) Write a program that reads a file and writes out a new file with the lines in reversed order (i.e. the first line in the old file becomes the last one in the new file.) ii)Write a Python program to count number of characters, words and lines in a file.	CO3	(08)
6.	a)	i) Write a Python program to read a file line by line and store it into a list by sorting it by the first letter of each line. ii) Write a python program to read a file and find the longest word/words in the entire file.	CO3	(06)
	b)	i) Write a Python program to get current time in milliseconds in Pythonusing the time module. ii) Write a Python program to print a string five times with a delayfive seconds between them using the time module.	CO3	(06)
	c)	i) Write a Python program to generate random even integers in a specific numerical range using the random module. ii) Write a Python program to get a single random element from a specified string using the random module.	CO3	(08)

UNIT-IV

7.	a)	What are pure functions and modifiers? Write a python program to demonstrate the two kinds of functions.	CO4	(08)
	b)	Write a Python class to implement pow(x, n).	CO4	(06)
	c)	Write a Python class to find a pair of elements (indices of the two numbers) from a given array whose sum equals a specific target number.	CO4	(06)
8.	a)	Explain with an example of how we can use the built in exceptions types to raise an exception for the errors encountered.	CO4	(08)
	b)	Write a Python class to reverse a string word by word. Input string : 'hello .py' Expected Output : '.py hello'	CO4	(06)
	c)	Write a Python class to get all possible unique subsets from a set of distinct integers.	CO4	(06)

UNIT-V

9.	a)	Write a GUI application with a button labeled "Thank you." When the button is clicked, the window closes.	CO5	(05)
	b)	Write a GUI application with a single button. Initially the button is labeled 0, but each time it is clicked, the value on the button increases by 1.	CO5	(05)
	c)	Write a python code to Create a new database called "employee. DB". Which holds the name (TEXT), salary (INTEGER) and the experience (INTEGER). Perform the following operations: i) Create a table and Insert the two employee records. ii) Retrieve the contents from the table.	CO5	(10)

10.	a)	List and Explain the basic SQLite Data types with an examples.	CO5	(05)
	b)	Explain the aggregation functions used in the SQL with an example.	CO5	(05)
	c)	Design and develop GUI application with the following widgets: frame, label, text and button with customizing the visual style.	CO5	(10)

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