MCA42

RAMAIAH
Institute of Technology

EXAMINATIONS SEPTEMBER /OCTOBER 2021
SUPPLEMENTARY SEMESTER / GRADE IMPROVEMENT/ RE – REGISTERED CANDIDATES

Program   : Master of Computer Applications   **Semester**   : IV
Course Name   : **Programming with Python**   **Max. Marks** : 100
Course Code   : MCA42   **Duration**   : 3 Hrs

Instructions to the Candidates:
- Answer any five full questions.

1.	a)	Explain the usage of the following methods with examples: i) Extend() ii) pop() iii) sort() iv) split() v) join()	CO1	(10)
	b)	Explain what ord() and chr() function is used for. Using the same , Write a function that takes a string input and converts all uppercase letters to lowercase and vice versa **Sample input:** I love PyTHon **Sample output**: i LOVE pYthON	CO1	(10)
2.	a)	Demonstrate how dictionaries are created and used in Python. List and describe any five methods on dictionaries.	CO1	(10)
	b)	Develop a python program to count the frequency of words in a string using dictionary.	CO1	(05)
	c)	Develop a python program to print unique elements in a list.	CO1	(05)
3.	a)	Write a python function to check whether the given string is palindrome or not Function should take a string as argument and return Boolean value. Function should take "MADAM" as default, argument.	CO2	(06)
	b)	Implement anonymous(lambda) functions for the following: i) Filter out only even numbers from the given list. ii) Reduce the given list of numbers to its sum.	CO2	(06)
	c)	Differentiate between keyword arguments, required arguments and variable length arguments with suitable example.	CO2	(08)
4.	a)	Discuss list comprehension with example.	CO2	(04)
	b)	What is recursion? Find the factorial of a number using recursive function.	CO2	(06)
	c)	What is the significance of : i) Local and global variables ii) DOC Strings iii) map and reduce functions.	CO2	(10)
5.	a)	Define the following w.r.t classes in python. Demonstrate each of the following. (i) Constructor (ii) Destructor (iii) getattr (iv) hasattr	CO3	(08)
	b)	Develop a script using regular expressions to convert a date of yyyy-mm-dd format to dd-mm-yyyy format.	CO3	(06)
	c)	Develop script using regular expressions to match a string that contains only upper and lowercase letters, numbers, and underscores.	CO3	(06)

6.	a)	Create a class Rectangle. The constructor for this class should take two numeric arguments, which are the width and height. Add methods to compute the area and perimeter of the rectangle, as well as methods that simply return the height and width. Add a method is Square that returns a Boolean value if the rectangle is a square.	CO3	(10)
	b)	List and explain 5built-in classes in python and their use, with suitable example. Develop a program to demonstrate the same.	CO3	(10)
7.	a)	Develop a python script that will prompt the user for a string and a file name, and then print all lines in the file that contains the string entered by the user.	CO4	(08)
	b)	How do you handle an exception? Demonstrate try-finally clause.	CO4	(06)
	c)	Write a program that creates a canvas and a button. When the user presses the button, it should draw two circles on the canvas.	CO4	(06)

8. a) Discover the exception produced by each of the following points. Then, for each, develop a small script that illustrates catching the exception using a *try*statement and continuing with execution after the interrupt.   CO4 (10)
      i)   Division by zero
      ii) Opening a file that does not exist
      iii) Indexing a list with an illegal value
      iv) Using improper key with a dictionary
      v)   Using unindented code.

   b) Develop a Tkinter application to handle mouse event and keyboard event.   CO4 (10)

9.	a)	Explain the architecture of Django framework.	CO5	(08)
	b)	Design a HTML form to read information for placing order for T-Shirt with customized text on it. Accept the First-name, Last-name, Address, T-shirt Colour (Radio button), T-shirt size (Drop-down), and Quantity. On submitting the request form, all the data should be displayed in a neat format. Write necessary python code that has to be added in different files of Django framework.	CO5	(12)

10. Show the necessary steps and code to create a Movie web-page and perform the following operations: CO5 (20)
    i) Add a movie details   ii) Search movie details
    iii) Delete movie   iv) Modify movie

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