

SEMESTER END EXAMINATIONS – JULY / AUGUST 2021

Program	: B.E. : Common to all Programs	Semester	: VIII
Course Name	: Python Application Programming	Max. Marks	: 100
Course Code	: CSOE01/CSOE01(O)	Duration	: 3 Hrs

Instructions to the Candidates:

- Answer any five full questions.

- Explain the following with an example each: CO1 (06)
 - logical opposites
 - type conversions
 - return statement.
 - i) "Strings in Python are immutable". Explain this statement with example. CO1 (06)
ii) Develop a Python code to find the factorial of any number entered through the keyboard.
 - i) Write a Python program that accepts a word from the user and reverses it. CO1 (08)
ii) Write a Python program to construct the following pattern, using a nested for loop.
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 - Describe Arithmetic Operators, Assignment Operators, Comparison Operators and Logical Operators in detail with examples. CO1 (06)
 - i) Write a program to repeatedly check for the largest number between the user enters "done". CO1 (08)
ii) Write a python program to find the sum of all the numbers between 1 to 200 which are divisible by 3 and 5.
 - Write a Python code to add two matrices using nested loops and also perform transpose of the resultant matrix. CO1 (06)
- Discuss tuple as return value with an example. CO2 (06)
 - What is list membership? Develop a Python program to demonstrate the following operations on lists. CO2 (08)
 - Creation of two list with integer elements
 - Addition of two lists.
 - Describe the functionality of following dictionary methods with appropriate example. CO2 (06)
 - eng2sp.items()
 - eng2sp.has_key('one')

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4.
 - a) Why strings are immutable and list is mutable? Explain. CO2 (06)
 - b) Define List. Develop a Python program to demonstrate the following operations on lists. CO2 (08)
 - i. Creation of list with integer elements
 - ii. Addition of an element into the list.
 - c) Describe the functionality of following dictionary methods with appropriate example. CO2 (06)
 - i. eng2sp.keys()
 - ii. eng2sp.values()

5.
 - a) What are modules? Describe the different ways to import functions into the current namespace, and use them with examples. CO3 (06)
 - b) Explain with example the various methods available in the math module and the random module. CO3 (06)
 - c)
 - i) Write Python Program to Reverse Each Word in "secrets.txt" file. CO3 (08)
 - ii) Write Python Program to Find the Longest Word in a File. Get the File Name from User.

6.
 - a) Write Python Program to Count the Occurrences of Each Word and Also Count the Number of Words in a "quotes.txt" File. CO3 (06)
 - b) Discuss the following methods associated with the file object CO3 (06)
 - i) read() ii) readline() iii) readlines() iv) write()
 - c)
 - i) Write a Python program to generate random even integers in a specific numerical range using the random module. CO3 (08)
 - ii) Write a Python program to get a single random element from a specified string using the random module.


7.
 - a) Explain raising Exception and catching specific exceptions in python with a suitable example. CO4 (06)
 - b) Differentiate between shallow copying and deep copy methods used to copy the objects. CO4 (06)
 - c) Write a Python class to reverse a string word by word. CO4 (08)

Input string : 'hello .py'

Expected Output : '.py hello'

8.
 - a) Discuss the significance of the "self" keyword, __init__() and __str__() method in Python with a proper example code snippet. CO4 (06)
 - b) Define pure functions and modifiers and write a python program to demonstrate the same. CO4 (06)
 - c) Create a base class in python called shape. Use this class to store two double type values that could be used to compute the area of figures. Derive two specific classes called triangle and rectangle from the base shape. CO4 (08)

9.
 - a) With the help of Tkinter framework, design a window as follows: CO5 (08)


 - b) Design and implement a GUI application to accept a 4 digit number only and to print the number in reverse on click of a button. CO5 (06)
 - c) Write a procedure in python to fetch all the employee details whose salary is greater than 25000 and update the Age field of the employee "John" to 45. CO5 (06)

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10. a) With the help of widget GUI elements, design a window as follows: CO5 (08)

GUI

- □ ×

Button3 Button4

Button1
Button2

- b) List all the SQL aggregate functions. Explain with an example any one of the aggregate function. CO5 (06)
- c) Create a table customer with information like cid, name and favorite_item_id and product table with pid, prod_name and cost. Write a query to insert few entries in both the tables and display most favorite items of the customers. CO5 (06)
