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18CS55

## Fifth Semester B.E. Degree Examination, July/August 2021 Application Development using Python

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions.*

- 1 a. Explain string concatenation and string replication operator with an example. (05 Marks)  
b. Illustrate the use of break and continue with an example. (05 Marks)  
c. With the flow chart, explain the flow control statements while, for and elif. Write a python program to check whether the given number is positive, negative or zero. (10 Marks)
- 2 a. What are functions? Define python function with parameter and return statement. Write a python function to generate the factorial of a number. (07 Marks)  
b. Explain local and global scope with suitable example. (05 Marks)  
c. Define exception handling. How exceptions are handled in python? Write a python program to solve divide by zero exception. (08 Marks)
- 3 a. Explain negative indexing, slicing, index( ), append( ), insert( ) and sort( ) method with suitable example. (12 Marks)  
b. Write a python program to generate the following pattern using String center( ) method.  

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-----*-----  
----***-----  
--*****--  
-*****-  
*****
```

(08 Marks)
- 4 a. What is dictionary? How it differs from list? Write a program to count the number of occurrences of each character in string. (08 Marks)  
b. Define tuple data type. List out the differences between Tuple and list. Create a list of even numbers and convert it into a tuple. (06 Marks)  
c. Write the output of the following:  
(i) 'Hello'.upper.isupper()  
(ii) 'Hello'.upper().lower()  
(iii) '-'.join('There can be only one'.split()) (06 Marks)
- 5 a. Describe Greedy, Non greedy pattern matching and findall( ) method of Regex object with suitable code snippet. (07 Marks)  
b. Write a python program to demonstrate file reading and writing process. (06 Marks)  
c. List out the difference between shutil.copy( ) and shutil.copytree( ) method. Explain in brief move, rename is deleting files and folders in shutil module with example. (07 Marks)
- 6 a. Write a python program to extract the American phone number (eg. 415-555-4242) and email in a given string using Regular Expressions. (06 Marks)  
b. Define assertions. Explain how assertions can be used in traffic light simulation with python code snippet. (07 Marks)  
c. List out the benefits of compressing a file. With code snippet, explain reading and extracting from a zip file. (07 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 7 a. Explain operator overloading with example. (07 Marks)  
b. Illustrate the concept of pure functions and modifier using python code. (10 Marks)  
c. Explain init() method with example. (03 Marks)
- 8 a. Define classes and objects in python. Create a class called Employee and initialize it with emp\_id, name and salary. Write the methods to set values for name, salary and display the employee details. (08 Marks)  
b. Illustrate the concept of inheritance with example. (06 Marks)  
c. Explain Type-based dispatch with example. (06 Marks)
- 9 a. What is JSON? Briefly explain the json module to read and write JSON data with code snippet. (07 Marks)  
b. Explain the process of downloading files from the web with the requests module and saving downloaded files to the hard drive with suitable examples. (08 Marks)  
c. Write short notes on encrypting pdf files. (05 Marks)
- 10 a. Explain how to retrieve a web page element from a BeautifulSoup object using select() Method. (10 Marks)  
b. Illustrate with example how do you create and save excel document. (05 Marks)  
c. With code snippet explain the process of reading data from a CSV file. (05 Marks)

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