USN ☐☐☐☐☐☐☐☐☐☐ **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.

```
− − − − * − − −
− − − * * * − −
− − * * * * * − −
− * * * * * * −
* * * * * * * *
```
  (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)**

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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