END TERM EXAMINATION

THIRD SEMESTER [BCA] JANUARY-FEBRUARY 2023

Paper Code: BCAT-211	**Subject: Basics of Python Programming**
Time: 3 Hours	**Maximum Marks: 75**

Note: Attempt five questions in all including Q.No.1 which is compulsory.
Select one question from each unit.

Q1 Answer **any five** the following: **(5x5=25)**
   a) Explain the key features of Python?
   b) Explain Mutable and Immutable Data types with example.
   c) Consider a list L= [10, 20, 30, 40]. Find the output of following statements.
      a. L[0] = L[0] + 2
      b. L = L + 2
      c. L = L * 2
      d. L[1] = 50
      e. L = L[::-1]
   d) Explain the following functions with example.
      i) update()   ii) copy()
   e) Explain the Dynamic Typing feature of Python with example.
   f) Write the difference between indexing and slicing with example.

UNIT–I

Q2 a) Explain the following terms:-   **(3⅓)**
      (i)   Pass   (ii)   Continue
   b) Write a python script to print Fibonacci series for first 20 elements. **(4)**
   c) Explain Entry – Controlled loops in Python with the help of programs. **(5)**

OR

Q3 a) What is the difference between interactive mode and script mode in python? **(3)**
   b) Write a program that reads a string and check whether it is a Palindrome or not. **(5)**
   c) Explain the following functions with example. **(4⅓)**
      1.   lstrip()   2. swapcase()   3. isspace()

UNIT–II

Q4 a) What is Tuple? How to define and access the elements of Tuple? Explain it with a code. **(6)**

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b) What is the output of the following code snippets?   **(4)**
   1. t1 = (3)
       t2 = (4,5,6)
       t3 = t1 + t2
       print(t3)
   2   d = dict()
       d['left'] = >
       d['right'] = <
       print(d['left'] and d['right'] or d['right'] and d['left'])
       print(d['left'] and d['right'] and d['right'] and d['left'])and d['end'])

c) How are Dictionaries different from list?   **(2½)**

OR

Q5 a) What is Dictionary? What are the different ways to create Dictionary? **(5)**
   b) Explain the following methods of Lists with example: **(4)**
      1. extend()   2. insert()
   c) Given a tuple namely City storing cities names ('tokoyo', 'Delhi', 'Seoul', 'Jaipur', 'Paris', Luxembourg', 'Berlin', 'London', 'Moscow') as elements. Write a program to print names of the cities as well as their index in the index range 2 to 6, both inclusive. **(3½)**

UNIT–III

Q6 a) What is function? Explain the different types of arguments in function in Python. Illustrate with the help of programs. **(6½)**
   b) Predict the output of the following code snippet: **(2)**
      def add(a, b, c)
          print(x+y+z)

      c = add(6,16,26)

   c) Write a program to find factorial of a number using recursion. **(4)**

OR

Q7 a) What is the difference between Package and Module? What are the different ways to import a module in a program? **(5)**
   b) Write a program that reads a number, then converts it into octal and hexadecimal equivalent using built-in functions of Python. **(3½)**
   c) Differentiate between local and global variables in python with the help of a program. **(4)**

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UNIT–IV

Q8 a) Explain the following built-in methods of file **(6)**
      (i) read(n)
      (ii) seek()
      (iii)writelines()
      (iv)tell()
   b) List the advantages of NumPy Arrays over nested python list. **(3½)**
   c) Explain the following functions with respect to Matplotlib. **(3)**
      1. barh()
      2. legend()

OR

Q9 a) Explain the different file opening modes with example. **(8)**
   b) Explain the following function with respect to NumPy **(4½)**
      (i) reshape()
      (ii) ndim()

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