

Roll No.

H

TCS-303

**B. TECH. (CS) (THIRD SEMESTER)
END SEMESTER EXAMINATION, 2019**

PYTHON PROGRAMMING

Time : Three Hours

Maximum Marks : 100

Note : (i) This question paper contains five questions.

(ii) All questions are compulsory.

(iii) Instructions on how to attempt a question are mentioned against it.

(iv) Total marks for each main question are **twenty**.

1. Attempt any *two* parts of choice from (a), (b) and (c). (10×2=20 Marks)
 - (a) What do you mean by immutable data type ? Explain immutable data types with their operations and functions.
 - (b) Is String a mutable data type ? Also explain the string operations length, indexing and slicing in detail with an appropriate example.
 - (c) List different operators in Python, in the order of their precedence.
2. Attempt any *two* parts of choice from (a), (b) and (c). (2×10=20 Marks)
 - (a) What is lambda function ? What are the characteristics of a lambda function ? Give an example.
 - (b) What type of parameter passing is used in Python ? Justify your answer with sample programs.
 - (c) What are Python Arrays and how to use them ? Write a Python program to get the number of occurrences of a specified element in an array.

3. Attempt any *two* parts of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) What are lists ? "Lists are mutable." Justify the statement with examples.
 - (b) How tuples are created in Python ? Explain different ways of accessing and creating them.
 - (c) Explain the difference between Linear and Binary search. Write a program to find the desired element using Linear search.
4. Attempt any *two* parts of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) Write a program of bank account to create new account, display account, deposit amount and withdraw using class and function.
 - (b) What is Exception ? Explain Exception as control flow mechanism with suitable example.
 - (c) What is Inheritance, Super class and Sub-class ? Explain Multiple Inheritance with suitable example.
5. Attempt any *two* parts of choice from (a), (b) and (c). (2×10=20 Marks)
- (a) Write a python program to append data to an existing file 'python.py'. Read data to be appended from the user. Then display the contents of entire file.
 - (b) Create a Python program to read a text file and do the following :
 - (i) Print no. of lines
 - (ii) Print no. of unique words
 - (iii) Store each word with its occurrence in dictionary
 - (b) What is the use of MongoDB ? How does Python connect to MongoDB ? Explain with the help of steps. Insert a record into database (Make necessary assumption).