Roll No: | | | | | | | | | | | | | | |

B. TECH.
(SEM III) THEORY EXAMINATION 2019-20
PYTHON PROGRAMMING

Time: 3 Hours   *Total Marks: 100*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2 x 10 = 20**

Qno.	Question	Marks	CO
a.	What is the difference between list and tuples in Python?	2	CO3
b.	In some languages, every statement ends with a semi-colon (;). What happens if you put a semi-colon at the end of a Python statement?	2	CO2
c.	Mention five benefits of using Python.	2	CO4
d.	How is Python an interpreted language?	2	CO2
e.	What type of language is python?	2	CO1
f.	What are local variables and global variables in Python?	2	CO1
g.	What is the difference between Python Arrays and lists?	2	CO3
h.	Define ADTinterface.	2	CO4
i.	Define floor division with example.	2	CO5
j.	Differentiate Fruitful functions and void functions.	2	CO3

SECTION B

2.   **Attempt any *three* of the following:**   **3 x 10 = 30**

Qno.	Question	Marks	CO
a.	Explain iterator. Write a program to demonstrate the tower of Hanoi using function.	10	CO5
b.	Discuss function in python with its parts and scope. Explain with example. (Take Simple calculator with add, subtract, Division and Multiplication).	10	CO3
c.	Discuss ADT in python.How to define ADT? Write code for a student information.	10	CO4
d.	Explain all the Conditional statement in Python using small code example.	10	CO2
e.	What is Python? How Python is interpreted? What are the tools that help to find bugs or perform static analysis? What are Python decorators?	10	CO1

SECTION C

3.   **Attempt any *one* part of the following:**   **1 x 10 = 10**

Qno.	Question	Marks	CO
a.	Write short notes with example:The Programming Cycle for Python, Elements of Python, Type Conversion in Python, Operator Precedence, and Boolean Expression.	10	CO1
b.	How memory is managed in Python? Explain PEP 8. Write a Python program to print even length words in a string.	10	CO1

Paper Id: | 199344 | **Roll No:** [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

4. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	Explain Expression Evaluation & Float Representation with example. Write a Python Program for How to check if a given number is Fibonacci number.	10	CO2
b.	Explain the purpose and working of loops. Discuss Break and continue with example. Write a Python program to convert time from 12 hour to 24-hour format.	10	CO2

5. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	Explain higher order function with respect to lambda expression. Write a Python code to Count occurrences of an element in a list.	10	CO3
b.	Explain Unpacking Sequences, Mutable Sequences, and List Comprehension with example. Write a program to sort list of dictionaries by values in Python – Using lambda function.	10	CO3

6. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	Discuss File I/O in python. How to perform open, read,write, and close into a file? Write a Python program to read a file line-by-line store it into a variable.	10	CO4
b.	Discuss Exceptions and Assertions in python.How to handle Exceptions with Try-Finally? Explain 5 Built-in Exceptions with example.	10	CO4

7. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	Discuss and differentiate Iterators & Recursion. Write a program for Recursive Fibonacci series.	10	CO5
b.	Discuss Sorting & Merging. Explain different types of sorting with example.Write a Python Program for Sieve of Eratosthenes.	10	CO5