PAPER ID-411310

Roll No:

BTECH
(SEM III) THEORY EXAMINATION 2021-22
PYTHON PROGRAMMING

Time: 3 Hours   *Total Marks: 50*

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2*5 = 10**

Qno	Questions	CO
(a)	Explain the Programming Cycle for Python in detail.	1

(b)	What will be the output of the following Python code?
	i = 0
	while i< 3:
	  print(i)
	i += 1
	else:
	print(0)
		2

(c)	What will be the output of the following Python code? def cube(x): return x * x * x x = cube(3) print x	3
(d)	How do we define an Interface for an ADT?	4
(e)	How do you perform a search in Python?	5

SECTION B

2.   **Attempt any *three* of the following:**   **5*3 = 15**

Qno	Questions	CO
(a)	What do you mean by Python IDE? Explain in detail.	1
(b)	How can you randomize the items of a list in place in Python?	2
(c)	Explain Tuples and Unpacking Sequences in Python Data Structure.	3
(d)	What are File input and output operations in Python Programming?	4
(e)	Solve the Tower of Hanoi problem for n= 3 disk and show all the steps.	5

SECTION C

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

Qno	Questions	CO
(a)	Write a program in Python to execute the Selection sort algorithm.	5
(b)	Explain why python is considered an interpreted language.	1

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

Qno	Questions	CO
(a)	Write a Python program to construct the following pattern, using a nested for loop. * * * * * * * * * * * * * * *	2

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(b)	Write a program to produce Fibonacci series in Python.	4

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

Qno	Questions	CO
(a)	Write a Python program to change a given string to a new string where the first and last chars have been exchanged.	3
(b)	Write a Python program to add an item in a tuple.	3

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

Qno	Questions	CO
(a)	How to create and import a module in Python?	4
(b)	Explain the algorithm Sieve of Eratosthene used in Python Programming.	4

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

Qno	Questions	CO
(a)	Write a Recursive function in python BinarySearch(Arr,l,R,X) to search the given element X to be searched from the List Arr having R elements, where l represent slower bound and R represents the upper bound.	5
(b)	Explain the terms Merge List and Merge Sort in Python Programming.	5