



Roll No:

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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