



PAPER ID-411310

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Subject Code: KNC302

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? <pre>i = 0 while i &lt; 3:     print(i)     i += 1 else:     print(0)</pre>	2
(c)	What will be the output of the following Python code? <pre>def cube(x):     return x * x * x x = cube(3) print x</pre>	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.  <pre>* * * * * * * * * * * * * * *</pre>	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