# Bharati Vidyapeeth
## (Deemed to be University), Pune
## School of Distance Education

| Name of the Assignment Setter: | Dr. Satyawan Hembade | | | |
|---|---|---|---|---|
| **Course:** | | **Class:** | MCA | **Semester:** II |

| | **Subject:** | **Lab on Data Structures using Python** | |
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| **Q.1)** | | Attempt **ANY ONE** of the Following (**1000 Words**) | **(10)** |
|---|---|---|---|
| | **a)** | Define Stack as an ADT and provide implementation for it. Also write code to use this stack to push, pop elements and check it. | |
| | **b)** | What is linked list? Define it as ADT and provide mechanism to add elements at various position (head, tail) and search a particular element in it. | |
| **Q.2)** | | Attempt **ANY TWO** of the Following (**800 Words**) | **(12)** |
| | **a)** | What is tree traversing? Illustrate various tree traversing methods with any example tree. | |
| | **b)** | Write a python program to read numbers from file(numbers.txt) and find sum of even numbers among them. | |
| | **c)** | Explain mechanism of exception handling supported by python with example | |
| | **d)** | Define two sets (set1 and set2) and add elements in it. Also perform following operations on it.<br>I) Union<br>II) Intersection<br>III) Difference | |
| **Q.3)** | | Write Short Notes on (**ANY TWO**) | **(08)** |
| | **a)** | Write a Python program to read 10 numbers from keyboard and calculate average of Prime numbers among them. | |
| | **b)** | Write an algorithm for sorting elements on list using Bubble sort and demonstrate working of it with any sample data. | |
| | **c)** | What is Binary search? Write an algorithm for it and describe working of it with example. | |
| | **d)** | Explain the usage of python list data structure with example. | |

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