**Module - 1 (Software Development Life Cycle)**

* **What is Software?**
* Software is a set of instructions, data or programs used to operate computers and execute specific tasks.Software is a generic term used to refer to applications, scripts and programs that run on a device.
* **What are the types of Applications?**
* There are three types of applications like Web,Native and Hybrid.
* **What is programming?**
* Programming is the **process of creating a set of instructions** that tell a computer how to perform a task. Programming can be done using a variety of computer programming languages, such as JavaScript, Python, and C.
* **What is Python?**
* Python is an interpreted, object-oriented, high-level programming language with dynamic semantics developed by Guido van Rossum. .
* Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis.

**Module - 2 (Fundamentals of Python)**

* **How memory is managed in Python?**
* Memory management in Python involves a private heap containing all Python objects and data structures.
* This private heap is taken care of by Python Interpreter itself, and a programmer doesn't have access to this private heap.
* **What is the purpose of the continue statement in python?**
* The continue keyword is used to end the current iteration in a for loop (or a while loop), and continues to the next iteration.
* **What are negative indexes and why are they used?**
* Negative Indexing is used in Python to begin slicing from the end of the string i.e. the last.The slicing range is set as parameters i.e. start, stop and step.

**Module-3 - (Collections, functions and Modules)**

* **What is a List? How will you reverse a list?**
* Lists are used to store multiple items in a single variable.List is a collection which is ordered and changeable and Allow Duplicate members.
* Built in Function reverse() is used to reverse the list. The syntax of the reverse() method is: list.reverse()
* **How will you remove the last object from a list? Suppose list1 is [2, 33, 222, 14, and 25], what is list1 [-1]?**
* The pop() method can be used to remove the last object from the list or the given index value.
* List1[-1] = 25 # List index is negative and it is count from last
* **Differentiate between append () and extend () methods?**
* append() method adds a single element to the end of the list.

extend() method can add multiple individual elements to the end of the list.

* **How will you compare the two lists?**
* The list.sort() method sorts the two lists and the == operator compares the two lists item by item which means they have equal data items at equal positions.
* **What is tuple? Difference between list and tuple.**
* A Tuple is a Collection of data that is ordered and Unchangeable.
* List Data are written in Square Brackets and Tuple Data are written in Round Brackets.
* List is Changeable Whereas Tuple is Unchangeable.
* **How will you create a dictionary using tuples in python?**
* In Python, use the dict() function to convert a tuple to a dictionary. A key-value pair is contained in each tuple as an object.
* The dictionary is returned by the dict() method, which takes a tuple of tuples as an argument.
* **How Do You Traverse Through A Dictionary Object In Python?**
* Dictionary Objects Iterate using following methods.
* dict.keys()
* dict.values()
* dict.items()
* dict.get(9) = Value of key 9
* dict.sort()
* **How Do You Check The Presence Of A Key In A Dictionary?**
* The get() method is a dictionary method that returns the value of the associated key. If the key is not present it returns either a default value (if passed) or it returns None. Using this method we can pass a key and check if a key exists in the python dictionary.
* **Why Do You Use the Zip () Method in Python?**
* The zip() function returns an iterator of tuples based on the iterable objects. If a single iterable is passed, zip() returns an iterator of tuples with each tuple having only one element. If multiple iterables are passed, zip() returns an iterator of tuples with each tuple having elements from all the iterables.
* **How Many Basic Types Of Functions Are Available In Python?**
* There are two types of functions in python:
* 1) User-Defined Functions - These types of functions are defined by the user to perform any specific task.

2) Built-in Functions - These types of functions are predefined in python.

* **How can you pick a random item from a list or tuple? .**
* random.choice() method(This function returns a random element from the specified sequence i.e tuple,list) by passing the input tuple or list as an argument to the choice() function.
* **How can you pick a random item from a range?**
* Use the random.randrange() function(Returns a random number within the specified range) to generate a random number within the given range by passing minimum, and maximum numbers as arguments.
* **How can you get a random number in python?**
* To generate random numbers in Python, the randint() function is used. This function is defined in a random module.
* **How will you set the starting value in generating random numbers?**
* The random number generator needs a number to start with (a seed value), to be able to generate a random number. By default the random number generator uses the current system time. Use the seed() method to customize the start number of the random number generator.
* **How will you randomise the items of a list in place?**
* The shuffle() method randomizes the items of a list in place.