

Time : 2 Hours

**SOFTWARE
TECHNOLOGY**

Subject Code

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Total No. of Questions : 26 (Printed Pages : 3)

Maximum Marks : 50

- INSTRUCTIONS :**
- (i) All questions are compulsory.
 - (ii) There are *four* sections in the question paper (A, B, C and D).
 - (iii) Section A contains ten questions of 1 mark each.
 - (iv) Section B contains ten questions of 2 marks each.
 - (v) Section C contains four questions of 3 marks each. Internal choice is provided for Q. No. 24.
 - (vi) Section D contains *two* questions of 4 marks each. Internal choice is provided for Q. No. 26.
 - (vii) Write the number of each question clearly on the answer-book.

Section-A**(Question numbers from 1 to 10 carry 1 mark each)**

1. Write the keyword used for a function declaration in Python.
2. For a string `str="Good Morning"`, negative index `-1` belongs to which character ?
3. For `i in range (1, 5) :`, how many times the for loop will run ?

4. Given the list $L = [11, 22, 33, 44, 55]$, what would $L[2 : 4]$ return ?
5. Name the set of rules or procedures for transmitting data between electronic devices, such as computers.
6. In which Data Transmission mode communication channel allows data packets to either transmit or receive at the same time.
7. Select the type of network that connects group of nearby corporate offices in a city.
8. Give the name of the topology where devices are connected in a circular manner forming a closed loop.
9. Which function is used to merge two dictionaries into one dictionary ?
10. Write another term for a derived class in Inheritance.

Section-B

(Question numbers from 11 to 20 carry 2 marks each)

11. Explain giving example the `clear()` and `items()` built-in Dictionary function.
12. Explain Simplex mode of Data Transmission.
13. What is a Wired Network ? Explain.
14. Explain what is a Tuple and how to create an empty tuple ?
15. What is an Encapsulation in Object Oriented Programming ?
16. State and explain any *two* important features of object that make it an important character of object oriented programming.
17. Write *two* advantages of Object Oriented Programming.
18. Why do we use Classes in Python ?
19. What is Instance Attribute ? Explain.
20. Define Inheritance. Explain Single Inheritance.

Section-C

(Question numbers from 21 to 24 carry 3 marks each)

21. With a neat labelled diagram describe Ring topology.
22. What is Data Transmission ? Explain Analog and Digital Signals.
23. What is Polymorphism ? Explain operator overloading.
24. Write a Python code to store 'n' customer number and names in a dictionary. Input any customer number and delete that customer number if it exist from the dictionary and print the resultant dictionary.

Or

24. Explain with an example how to create a dictionary, add new element to it and find its length.

Section-D

(Question numbers from 25 to 26 carry 4 marks each)

25. Write a Python code to enter 'n' elements in a dictionary. Assign roll no. as the keys and corresponding marks as the data values. The code has to print list of keys and list of data values separately and also the created dictionary.
26. Write a Python code to create two tuples and input 'n' elements. Concatenate the two tuples and print it and also find its length.

Or

26. Write a Python code using tuple to generate the following output :

Given Original tuple :

T = (11, 22, 33, 44, 55, 66)

Output :

T1 = (11, 33, 55)

T2 = (22, 44, 66)

T3 = (55, 66)

T4 = (66, 55, 44, 33, 22, 11)