



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code: 3P5FB

B.Tech V Semester Regular Examinations, January 2023

PYTHON PROGRAMMING (INFORMATION TECHNOLOGY)

Maximum Marks: 70

Date: 09.01.2023 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 List the various data types in python.
- 2 What is membership operators?
- 3 Define if-else statement.
- 4 Write the syntax of while loop.
- 5 What is extend() ?
- 6 Define Array.
- 7 Define Concatenation().
- 8 What is Function?
- 9 Define slicing.
- 10 What is data frame in python?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Estimate the features of Python programming language in detail? [10M]
OR
- 12 a) Write Pythonic code to find the factorial of a number. [5M]
b) Write Python Program to reverse a number and also find the Sum of digits in the reversed number. Prompt the user for input. [5M]
- 13 a) Explain the concept of for loop in python. [5M]
b) Write a python program to find sum of first 100 natural numbers. [5M]
OR
- 14 Write Pythonic code to multiply two matrices using nested loops and also perform transpose of the resultant matrix. [10M]
- 15 a) Write code snippets in Python to perform the accessing elements of a tuple, modifying elements of a tuple, and deleting elements of a tuple. [6M]
b) Explain the use of following methods with their syntax. [4M]
i) index() ii) append()

OR

- 16 a) Compare and contrast the difference between List and Arrays and also explain about array module with example programs. [6M]
b) Explain the use of following methods with their syntax. [4M]
i) insert() ii) extend()
- 17 a) Discuss Length of string, Indexing in strings, counting substrings, in a string, the operations on string. [6M]
b) Write about repeating() and concatenation(). [4M]
OR
- 18 a) Explain lambda function and it's characteristics with an example. [6M]
b) Explain various String pattern matching functions in Python. [4M]
- 19 a) Explain how to iterate over rows in Pandas Dataframe. [5M]
b) Create a Pandas Series from array without and with index. [5M]
OR
- 20 a) What is the NumPy and Write a NumPy program to get the numpy version and show numpy build configuration. [5M]
b) Write a NumPy program to test whether any of the elements of a given array is non-zero. [5M]