



R18 Regulation

Subject code:208FA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VIII Semester Regular Examinations, June 2022

PYTHON PROGRAMMING

(INFORMATION TECHNOLOGY)

Maximum Marks: 70

Date:18.06.2022 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 Write a program to display data of different types using variables and literal constants?
- 2 List out all arithmetic and comparison operators.
- 3 Write a program to demonstrate the use of nested if structure
- 4 Write a program that displays first natural numbers using for loop
- 5 Write all list methods with examples.
- 6 How do you access a value from Dictionary? Justify with a program
- 7 Demonstrate with a program to concatenate, append and multiply strings
- 8 List out built-in string methods.
- 9 How to create N- dimensional array object by using numpy? Give examples.
- 10 Create a simple pandas series from a list.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 A. Write about Bitwise operators, Shift operators and Logical Operators (5 marks)
B. Write a program to demonstrate Operations on Sets (5 marks)
OR
- 12 A.i) Write a program to read two floating point numbers. Add these numbers and assign the result to an integer. Finally display the value of all the three variables. (3 marks)
ii) Write a program that prompts user to enter his first name and last name and displays a message "Greetings Hello!!!!First name Last name". (2 marks)
B. Demonstrate Membership operators and Identity operators with examples. (5 marks)
- 13 A. Demonstrate the use of break and continue statements on calculating square root of a number. (5 Marks)
B. Explain LOOP Statements with an example. (5 Marks)
OR
- 14 A. Write a Program to read a character until a "*" is encountered. Also count the number of uppercase, lowercase and numbers entered by users. (5 Marks)
B. Write a program using for loop to calculate the value of an investment. Input an initial value of investment and annual interest and calculate the value of investment over time. (5 Marks)

- 15 A. i) Demonstrate the use of tuples in `numpy.transpose()`. (2 Marks)
 ii) Write a Program to add and multiply two matrices where (3 Marks)
`mat1 = ([1, 6, 5],[3, 4, 8],[2, 12, 3])`
`mat2 = ([3, 4, 6],[5, 6, 7],[6,56, 7])`
 B. Is tuple mutable or immutable object? Justify with examples . (5 Marks)
 OR
- 16 A. Create a list and perform the following operations with your own example. (5 Marks)
 i) Negative indexing (access the last item) ii) Add elements in the list
 iii) Append () , Extend() iv) pop(), remove() v) min(), max()
 B. create a dictionary and perform the following operations with your own example . (5 Marks)
 i) create an empty dictionary ii) Add elements one at a time iii) Update existing key values
- 17 A. Write a program to demonstrate slice operations on string objects . (5 Marks)
 B. Explain formal and actual arguments with an example. (5 Marks)
 OR
- 18 A. Write the syntax of Lambda function and perform the following operations. (2 Marks)
 i) Add 10 to argument a, and return the result. (2 Marks)
 ii) Multiply argument a with argument b and return the result. (1 Mark)
 iii) Summarize argument a, b, and c and return the result (5 Marks)
 B. Write briefly on functions, calling a function and return statement. Write the suitable program.
- 19 A. Write the code for how you handle the missing values using Python Pandas for the below dataset. (5 Marks)

	Date	Item	Measure_1	Measure_2	Measure_3	Measure_4
0	2021-10-01	1014	8	0.53	0.79	NaN
1	2021-10-02	1014	1	0.84	0.16	NaN
2	2021-10-03	<NA>	<NA>	NaN	NaN	NaN
3	2021-10-04	1014	3	NaN	0.26	NaN
4	2021-10-05	1014	5	0.08	0.91	NaN
5	2021-10-06	1014	6	0.94	0.64	NaN
6	2021-10-07	1014	8	0.17	0.60	NaN
7	2021-10-08	1014	<NA>	0.45	0.00	-1.000761
8	2021-10-09	1014	1	0.44	0.72	-1.871924
9	2021-10-10	<NA>	<NA>	0.01	0.39	1.745967

- i) Drop rows or columns that have a missing value ii) Drop rows or columns that only have missing values
 iii) fill with a constant value iv) Fill with an aggregate value v) Fill by using another data frame.
 B. List out all data types in Numpy and the characters used to represent them . (5 Marks)
 OR
- 20 A. Explain Indexing and Slicing with an example. (5 Marks)
 B. Explain in detail about Data Frame. (5 Marks)