



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

Subject code: 3P5EB

B.Tech V Semester Regular Examinations, January 2023

PYTHON PROGRAMMING

(Computer Science & Engineering)

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 out the main differences between lists and tuples.
- 2 What is the output of the following program?

```
name="Abdul"  
age=80  
marks=80.50  
print(name)  
print(age)  
print(marks)
```
- 3 Define if...else statement.
- 4 What is pass statement?
- 5 Differentiate between Local and Global Variable.
- 6 What is Fruitful Functions?
- 7 What is File?
- 8 Define Namespacing.
- 9 Define Class and Object.
- 10 Define the term User-defined Exceptions.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 a) Write a Python program that reads four integers from user, prints them with a single print statement, without any space or newline between/after the values. [7M]
b) What Python uses, static typing or dynamic typing? Justify your answer with an example. [3M]

OR

- 12 a) Write a Python program that prints multiplication table of a given number. [6M]
b) What is the purpose of else clause for a loop? [4M]
- 13 a) What is a list in Python? How to create nested lists? Demonstrate how to create and print a 3-dimensional matrix with lists. [5M]

b) Write a Python program that counts the number of occurrences of a letter in a string, using dictionaries. [5M]

OR

14 a) Explain about different types of arguments in Python. [5M]

b) Write a Python function that computes the harmonic sum of n. [5M]

$$\text{Harmonic Sum} = (1/2) + (1/4) + (1/8) + (1/16) + \dots + (1/2^n)$$

15 a) Write a recursive Python function that recursively computes sum of elements in a list of lists.

Sample Input: [1, 2, [3,4], [5,6]] Expected Result: 21 [5M]

b) What is lambda function? What are the characteristics of a lambda function? [5M]

OR

16 a) Explain the concept of Lists, Tuples, dictionaries, set. [5M]

b) How the other list methods index(), insert(), remove(), pop(), reverse() are implemented. [5M]

17 a) Explain in detail on File Handling. [5M]

b) Explain the concept "append" and "write" with example. [5M]

OR

18 a) Explain briefly any one of the Python Modules. [5M]

b) Draw a line in a diagram from position(0,0) to position(6,250) [5M]

19 a) What happens if except clause is written without any Exception type? Explain with an example. [5M]

b) What is the difference between else block and finally block in exception handling? Explain with an example program. [5M]

OR

20 a) How to declare a constructor method in Python? Explain. [5M]

b) Write a function called oops that explicitly raises a IndexError exception when called. Then write another function that calls oops inside a try/except statement to catch the error. What happens if you change oops to raise KeyError instead of IndexError? Where do the names KeyError and IndexError come from? [5M]