

**TILAK MAHARASHTRA VIDYAPEETH, PUNE**  
**MASTER OF SCIENCE (M.Sc) in COMPUTER APPLICATIONS**  
**EXAMINATION: DECEMBER - 2023**  
**SEMESTER - III**  
**Sub.: Python Programming (MSC-306-22)**

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Date : 14/12/2023

Total Marks : 60

Time: 10.00 am to 12.30 pm

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**Instruction:**

1. All questions are compulsory unless and otherwise stated.
2. Bold figures to the right of every question are the maximum marks for that question.
3. Candidates are advised to attempt questions in order.
4. Answers written illegibly are likely to be marked zero.
5. Use of scientific calculators, Log tables, Mollier Charts is allowed.
6. Draw neat and labelled diagram wherever necessary.

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**Q.1. Answer the following in 2-3 lines. (Any 5) (10)**

1. Write a note on break and continue statement.
2. What is the use of // operator in python?
3. Explain the concept of class and object in brief.
4. List the steps required to install python.
5. Write a note on pass statement with example in Python.
6. What is the use of split function in python?
7. What are lists and tuples? What is the key difference between the two?

**Q.2. Answer the following in short. (Any 4) (20)**

1. Explain the steps of database connectivity in python with suitable example.
2. Write a python program to display Fibonacci series up to 15 terms using while loop.
3. Explain control statements in python with example.
4. Explain Set intersection and union operation in python with example.
5. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
6. Write Python program to accept two matrices and perform their addition.

**Q. 3. Answer the following in detail. (Any 3) (30)**

1. Define Exceptions. Explain Python exception handling in detail with suitable example.
  2. What is key-value pair? Explain steps for creating, initializing and accessing the elements in a dictionary.
  3. Write a Python program to print the largest and smallest number from a list. Accept list from user.
  4. What are python modules? List some commonly used built-in modules in python.
  5. What is file handling? How to write information into a file using python, explain with suitable example.
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