

TILAK MAHARASHTRA VIDYAPEETH, PUNE
BACHELOR OF SCIENCE
(DATA SCIENCE) (787)/
(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING) (788)
EXAMINATION: JANUARY - 2026
SEMESTER - I
Sub: Python Programming (78725 -102, 78825-102)

Date : 7/01/2026

Total Marks : 60

Time: 10.00am To 12.30pm

Instructions:

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 diagrams wherever necessary.

Q.1. Fill in the blanks. (05)

1. Python source code files are saved with the _____ extension.
a) .py
b) .txt
c) .csv
d) .xlsx
2. The operator used for floor division in Python is _____.
a) //
b) %
c) %%
d) /
3. _____ is used to check the data type of a variable in Python.
a) type()
b) range()
c) arrange()
d) var()
4. The statement used to exit a function and return a value is _____.
a) break
b) return
c) pass
d) continue
5. The data type used to store key-value pairs in Python is _____.
a) list
b) set
c) dictionary
d) tuple

Q.2. State True/False. (05)

1. Python is a case-sensitive language.
2. Lists in Python can store elements of different data types.
3. The continue statement stops the execution of a loop permanently.
4. Python supports dynamic typing.
5. The range() function returns a list in Python.

Q.3. Answer the following. (Solve any 5) (10)

1. What is an identifier in Python? Give examples.
2. What is the use of the pass statement?
3. Define loop. Name different types of loops in Python.
4. What is a variable? Explain variable naming rules in Python.
5. What is the difference between break and continue?
6. What is a constructor in Python?

Q. 4. Answer the following in detail. (Solve any 6) (30)

1. Explain Python data types with examples.
2. Explain control statements in Python.
3. What is a function? Explain user-defined functions with syntax and example.
4. Explain tuples in Python. Describe tuple operations.
5. Explain recursion in Python with suitable example.
6. Write a Python program to check whether a number is prime or not.
7. Explain the use of lambda functions in Python.

Q. 5. Answer the following in detail. (Solve any 1) (10)

1. **Explain Pandas library in Python. Write programs to:** Create a Pandas Series and DataFrame, Perform basic data operations, Read data from a CSV file, Perform data filtering and sorting
 2. **Explain File Handling in Python. Describe:** Opening and closing files, Reading and writing files, File modes, Exception handling in file operations
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