Multiple Choice Question (1 Mark)
Q1. Which of the following operators in Python has the highest precedence?
a) Multiplication *
b) Exponent **
c) Division /
d) Parentheses ()
Answer: d) Parentheses ()
Q2. In Pandas, which function is used to return a concise summary of a DataFrame, including column data types, non-null counts, and memory usage?
a) dtypes
b) info ()
c) unique ()
d) select_dtypes ()
Answer: b) info ()

Descriptive Question (5–7 Marks)
Q1. Explain the use of the select_dtypes() function in Pandas with an example.
Answer:
The select_dtypes() function in Pandas is used to return a subset of columns in a DataFrame based on their data type. It allows filtering of numeric, categorical, or object type columns.
Syntax:
DataFrame.select_dtypes(include=None, exclude=None)
Example:

```
import pandas as pd

df = pd.DataFrame({
    'A': [1, 2, 3],
    'B': [4.5, 5.5, 6.5],
    'C': ['x', 'y', 'z']
})

# Select only numeric columns
numeric_df = df.select_dtypes(include=['number'])
print(numeric_df)
```

Output:
```
   A   B
0  1  4.5
1  2  5.5
2  3  6.5
```
In this example, only the numeric columns (A and B) are selected, while the object column (C) is excluded. This is useful when we want to perform operations only on numerical data in a DataFrame.

Q2. Explain the difference between logical operators and bitwise operators in Python with suitable examples.
Answer:

Feature	Logical Operators	Bitwise Operators
Works on	Boolean values (True, False)	Binary representation of integers
Return type	Boolean result (True or False)	Integer result after bitwise computation
Examples	and, or, not	&, `

Usage	Used in conditional statements	Used in low-level operations on bits
Example Code	x = 5 y = 7 print(x > 3 and y > 5) # True print(x < 3 or y > 5) # True print(not(x > y)) # True	x = 5 # 0101 y = 7 # 0111 print(x & y) # 5 (0101) print(x | y) # 7 (0111)