

PYTHON PROGRAMMING

BRANCH :- CSE

These Questions are made for your previous exam, from PYQ and some internet....(Notes reference le Lena ek baar)

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(PYQ Matched 🔥 + Smartly Predicted ✅)

✓ 1. Python Fundamentals & Basics

1. What are **tokens** in Python? Explain with example. (🔥PYQ)
2. Differentiate between **keywords** and **identifiers**. (🔥Expected)
3. Write a short note on **Python interpreter** and **IDEs**.
4. Explain different **data types** in Python with examples. (🔥PYQ Match + MCQ Source)
5. What is the difference between **raw_input()** and **input()** in Python 3?

✓ 2. I/O Operations, Operators & Expressions

1. What is the role of **print()** in Python? Explain formatting options.
2. List and explain **arithmetic**, **relational**, and **logical** operators. (🔥Expected – repeated in MCQs)
3. Explain **type casting** in Python with suitable example. (🔥PYQ: Q7e)
4. What is **operator precedence**? Evaluate: $5 + 3 * 2 - 8 / 4$

✓ 3. Conditional Statements & Loops

1. Write a program to check if a number is **even or odd** using **if-else**. (🔥PYQ Q3b)
2. Write a program to display **all prime numbers from 1 to 100**. (🔥PYQ Q7b)
3. Explain **if**, **if-else**, and **if-elif** with examples.
4. Write a Python program using **nested loops** to print a pattern.
5. Compare **while** and **for** loops with syntax and examples.

✓ 4. Data Collections – List, Set, Tuple

1. Explain difference between **mutable** and **immutable** data types. (🔥PYQ Q7d)
2. Write a program to demonstrate **slicing** in list and string. (🔥PYQ Q3a)
3. Create a **set** and perform operations: add, remove, union, intersection.
4. What is a **tuple**? List its features and how it differs from list. (🔥PYQ MCQ)

✓ 5. Dictionary, Arrays and Strings

1. Create a **dictionary** of 5 items. Write code to add and delete an item.
2. What are **arrays** in Python? Use `array` module to create and manipulate integer array. (🔥PYQ Q5a)
3. Differentiate between **List** and **Array** in Python.
4. Write a program to reverse a string using slicing.
5. What is **string immutability**? Give example.

✓ 6. Functions and Modules

1. Define a function to calculate **factorial** of a number. (🔥PYQ Q4b)
2. What is the difference between `return` and `yield` in Python? (🔥Expected Concept)
3. What are **anonymous functions** in Python? Explain with example.
4. What is the need for modules? How to create and import a module? (🔥PYQ Q6a)
5. Name any **4 built-in modules** in Python and their uses.

✓ 7. NumPy and Pandas

1. What is NumPy? Write a program using NumPy to create an array and perform basic operations. (🔥PYQ Q4a)
2. What is a **DataFrame** in Pandas? How to create it?
3. List any 5 **NumPy functions** with use.
4. Differentiate between **Series** and **DataFrame** in Pandas. (🔥Expected)

✓ 8. File Handling & Exception

1. Write a program to **write to a file** and read content back. (🔥PYQ Q6b)
2. What is the difference between `read()`, `readline()` and `readlines()`?
3. Explain **try-except** block with example. (🔥PYQ Q6b)
4. What is `finally` clause in exception handling? When is it used?
5. List and explain **types of errors** in Python.

Short Notes (Write Any 4)

(Highly likely 7-mark)

- Control Flow in Python (🔥PYQ)
- Data Types in Python (🔥PYQ)
- Mutable vs Immutable
- Arrays in Python (🔥PYQ)

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- Exception Handling (🔥PYQ)
- Modules and Packages (🔥PYQ)
- Python File Operations (🔥PYQ)
- String Manipulation
- Pandas DataFrame
- List vs Tuple

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