ByteCraft Data Lab

Code. Analyze. Succeed

BC
BYTECRAFT
DATA LAB

PYTHON + SQL BASICS

Duration / Mode:

2 Months | Live Online Classes

Targeted for Polytechnic (MSBTE) & BCA Students

Organized by
ByteCraft Data Lab

1. Course Overview

- This program is an academic enhancement initiative designed for Computer Science and IT students.
- The curriculum is strictly aligned with university standards in Maharashtra, focusing on the core logic required for both Theory and Practical Examinations.

2. Course Objectives

- Logic Building: Master Python syntax and programming logic.
- Academic Success: Focus on MSBTE and University-specific question patterns.
- Database Foundation: Understand Relational Databases using SQL.
- Practical Readiness: Hands-on practice for laboratory exams and viva-voce

3. Student Profile

- Polytechnic (Computer/IT) Students.
- BCA / B.Sc (CS/IT) Undergraduates.
- Beginners seeking a structured, exam-oriented foundation.

4. Delivery Format

- Duration: 8 Weeks (Interactive Sessions).
- Medium: English/Marathi/Hindi (Bilingual for better understanding).
- Resources: Chapter-wise notes and previous year question banks.

Module 1: Fundamentals & Environment

- Python Setup, Identifiers, Keywords, and Literals.
- Input/Output Operations (print and input).

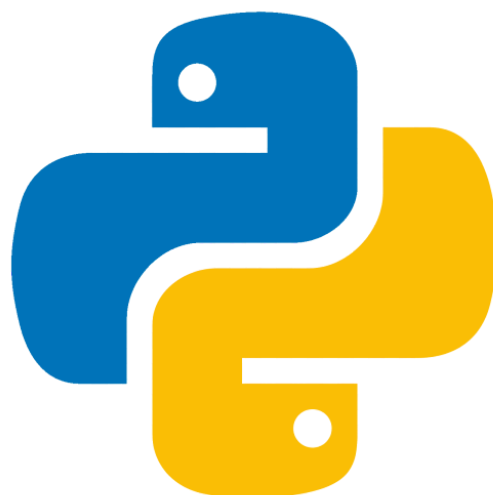## Module 2: Control Flow & Logic

- Operators: Arithmetic, Logical, and Bitwise.
- Conditional Statements: if-else, elif ladders.
- Loops: while, for, and Nested structures.

Module 3: Data Structures

- Lists, Tuples, Dictionaries, and Sets.
- Slicing, Indexing, and Built-in Methods.

Module 4: Functions & File Handling

- Function Definitions, Scope, and Arguments.
- File I/O: Reading and Writing .txt and .csv files.
- Exception Handling: try-except blocks.

3

Module 5: Database Management

- RDBMS Basics and Data Types.
- DDL Commands: CREATE, ALTER, DROP.
- DML Commands: INSERT, UPDATE, DELETE.
- Data Retrieval: SELECT with WHERE, ORDER BY, and GROUP BY.

4

1.Learning Outcomes

- Develop error-free Python scripts for university practicals.
- Execute complex SQL queries for database management.
- Solve theoretical programming problems with high accuracy.

2.Examination Strategy

- Mock Tests: Periodic tests based on MSBTE/University patterns.
- Debug Sessions: Focused training on identifying logical errors.

3.Certification

A Certificate of Completion will be issued by ByteCraft Data Lab to students who maintain 75% attendance and pass the internal final assessment.

This course is an academic support program for exam preparation. ByteCraft Data Lab does not provide job guarantees, placement assurances, or internship commitments. Results are subject to student effort and university evaluation.

5

Course Roadmap
Python + SQL at a Glance

Week	Phase	Main Topic	Key Learning Focus
1	Python	Foundations	Installation, Variables, I/O functions
2	Python	Control Logic	Loops (for/while) & if-else logic
3	Python	Collections	Lists, Tuples, & String manipulation
4	Python	Data Org	Dictionaries, Sets, & Advanced Methods
5	Python	Modularity	Writing Functions & Using Modules
6	Python	Operations	File Handling & Error Management
7	SQL	RDBMS Intro	Table Creation (DDL) & Data Types
8	SQL	Data Queries	SELECT, WHERE, ORDER BY, GROUP BY

This course is exam-oriented and does not guarantee jobs or placements.

Preparation Strategy

- Daily Practice: 30 minutes of coding exercises.
- Weekend Lab: Live problem-solving based on university paper patterns.
- Quick Revision: Access to "Cheat Sheets" for Python methods and SQL syntax.

Important Details

- Mode: Live Online
- Target: Polytechnic & BCA Exams
- Inquiries: 9421620187
- Portal: www.bytecraftdatalab.com

This course is exam-oriented and does not guarantee jobs or placements.

A Message to Our Students
Dear Student,

Programming is often seen as a difficult subject, but it is actually the most scoring part of your curriculum once you understand the logic. At ByteCraft Data Lab, we don't just teach you how to code; we teach you how to think like a programmer.

This course is specifically curated for Polytechnic and BCA students who want to excel in their university examinations. We have stripped away the unnecessary jargon and focused on the core concepts—Python and SQL—that appear most frequently in your theory and practical papers.

Our goal is simple: to make you confident enough to write error-free programs on your own and help you secure top marks in your academic journey.

Let's turn your academic challenges into your professional strengths.

Best Regards,

The ByteCraft Team

www.bytecraftdatalab.com

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Q1. Is this course job-oriented?
No. This course is designed strictly for university exam preparation.

Q2. Will I receive a certificate?
Yes. A Certificate of Completion is issued after meeting attendance
and assessment requirements.

Q3. Are recordings provided?
Yes, limited access recordings are provided for revision purposes.

Q4. Is this course suitable for beginners?
Yes. This course starts from basics and is exam-focused.

This course is exam-oriented and does not guarantee jobs or placements.