B.C.A. (Bachelor of Computer Applications) – Simplified & Structured Overview

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📘 Programme Duration & Eligibility

- **Duration:** 4 Years (8 Semesters)
- **Eligibility:** Minimum **50% in Class 12** with any one of the following subjects:
- Mathematics
- Computer Science / IT
- Information Practices
- Computer Technology / Maintenance
- ITeS

🕐 Programme Outcomes (Simple Version)

1. Build strong computer and software development skills.
2. Gain practical knowledge for jobs in IT and tech fields.
3. Learn modern programming, tools, and engineering practices.
4. Understand how to design and build software systems.
5. Learn how to solve technical and social challenges.
6. Gain skills useful for jobs, startups, and higher studies.
7. Learn computing + technological concepts clearly.
8. Develop the ability to build usable software applications.
9. Gain management and teamwork skills.

📚 Semester-wise Subjects (Simplified)

YEAR 1

Semester I

- Fundamentals of Computer & Applications
- Programming in C
- Basics of Information System
- Mathematics
- Soft Skills & Personality Development

Semester II

- Data Structures
- Database Management System
- Operating System
- Discrete Mathematical Structure

• Digital Electronics & Communication

YEAR 2

Semester III

• Object-Oriented Programming using Java
• Software Engineering
• Computer Architecture
• Python Programming
• Accounting & Financial Management

Semester IV

• Advanced Java Technology
• Design & Analysis of Algorithms
• Web Design Concepts
• Computer Graphics
• Managerial Economics

YEAR 3

Semester V

• Computer Networks
• Artificial Intelligence
• Cyber Law
• Numerical & Reasoning Ability Development
• **Elective I (Choose One):**
• Graph Theory
• Software Testing & Audit
• UNIX Operating System
• Data Mining & Data Warehousing

Semester VI

• Machine Learning
• Multimedia System
• Software Project Management
• **Elective II (Choose One):**
• Open Source Software
• Mobile Computing
• Cryptography
• Optimization Techniques

YEAR 4

Semester VII

- Research Methodology
- Basics of Data Science
- **Elective III (Choose One):**
- Internet of Things (IoT)
- Digital Image Processing
- Advanced DBMS
- Soft Computing

Semester VIII

- Final Dissertation / Project
- General Proficiency
