

# Common BCA (Bachelor of Computer Applications) General Syllabus

## SEMESTER 1

1. Fundamentals of Information Technology
2. Programming Principles and Algorithms
3. Computer Organization and Architecture
4. Business Communication
5. Mathematics for Computer Science - I
6. Environmental Studies / Value Education

## SEMESTER 2

1. Programming in C Language
2. Data Structures and Applications
3. Database Management Systems (DBMS)
4. Digital Electronics
5. Mathematics for Computer Science - II
6. Soft Skills and Personality Development

## SEMESTER 3

1. Object-Oriented Programming using C++
2. Operating Systems
3. Computer Networks
4. Software Engineering
5. Web Technologies - HTML, CSS, JavaScript
6. Mini Project / Skill Enhancement Course

## SEMESTER 4

1. Java Programming
2. Data Communication and Network Security
3. Management Information Systems
4. Python Programming
5. Open Source Technologies
6. Database Administration / Practical Work

## SEMESTER 5

1. Web Application Development (PHP / ASP.NET)
2. Mobile Application Development
3. Cloud Computing and Virtualization
4. Artificial Intelligence and Machine Learning (Basics)
5. Project Work - Phase I / Internship

## SEMESTER 6

1. Internet of Things (IoT)
2. Cyber Security and Ethical Hacking
3. Software Testing and Quality Assurance
4. Project Work - Phase II / Dissertation
5. Seminar / Viva Voce

## ELECTIVE SUBJECTS (Depending on University)

- Data Analytics
- Game Development
- Blockchain Technology

- Big Data Management
- E-Commerce and Digital Marketing
- Computer Graphics and Multimedia

Note: The above syllabus provides a general framework commonly followed by UGC/AICTE-approved universities in India

for the BCA (General) program. Specific course titles and lab components may vary slightly across institutions.