

## Model Curriculum for BCA

Sem	Core Courses	Hour / Week		DS Elective Courses	Hous/ Week
		Theory	Lab		
1	i. Fundamentals of Computers ii. Programming in C iii. Mathematical Foundation/ Accountancy iv. LAB: Information Technology v. LAB: C Programming	3 3 3	   4 4		
2	i. Discrete Mathematical Structures ii. Data Structures using C iii. Object Oriented Concepts using JAVA iv. LAB: Data Structure v. LAB: JAVA Lab	3 3 3	   4 4		
3	i. Data Base Management Systems ii. C# and DOT NET Framework iii. Computer Communication and Networks iv. LAB: DBMS v. LAB: C# and DOT NET Framework	3 3 3	   4 4		
4	i. Python Programming ii. Computer Multimedia and Animation iii. Operating Systems Concepts iv. LAB: Multimedia and Animation v. LAB: Python programming	3 3 3	   4 4		
5	i. Internet Technologies ii. Statistical Computing and R Programming iii. Software Engineering iv. LAB: R Programming v. LAB: JAVA Script, HTML and CSS vi. Vocational 1	3 3  3  3	   4 4	(a) Cyber Law and Cyber Security (b) Cloud Computing (c) Business Intelligence	3 3 3
6	i. Artificial Intelligence and Applications ii. PHP and MySQL iii. LAB: PHP and MySQL iv. PROJECT: v. Vocational 2	3 3   3	  4 12	(a) Fundamentals of Data Science (b) Mobile Application Development (c) Embedded Systems	3 3 3
7	i. Analysis and Design of Algorithms ii. Data Mining and Knowledge Management iii. LAB: Algorithms iv. LAB: Data Mining and Knowledge Management v. Vocational 3	3 3    3	   4 4	(a) Data Compression (b) IoT (c) Data Analytics	3 3 3
8	i. Automata Theory and Compiler Design ii. Cryptography and Network Security iii. Compiler Lab iv. LAB: Project v. Vocational 4	3  3  3	   4 12	(a) Open-Source Programming (b) Storage Area Networks (c) Pattern Recognition (a) Machine Learning	3 3 3 3