

B.Tech. CSE Course Structure (2025-2029)-AI & DS

Sr. No.	Semester	Course Code	Course Title	L	T	P	Contact Hrs.	Credits	Type
1	1	DEN001C	Communication Skills	1	0	0	1	1	AEC
2	1	DEN001D	Communication Skills Lab	0	0	2	2	1	AEC
3	1	DMA024A	Mathematics-I	3	1	0	4	4	Foundation
4	1	DPH001B	Applied Physics	3	0	0	3	3	Foundation
5	1	DCO013A	Computer Programming and Logical Thinking	3	0	0	3	3	Foundation
6	1	DPH002B	Applied Physics Lab	0	0	2	2	1	Foundation
7	1	DCO014A	Computer Programming and Logical Thinking Lab	0	0	2	2	1	Foundation
8	1	JIC001A	Entrepreneurship Development	0	0	2	2	1	SEC
9	1	BCO541A	Fundamentals of Artificial Intelligence	3	0	0	3	3	SEC
10	1	BCO570A	Digital Data and AI Literacy	0	0	4	4	2	SEC
11	1	DCH010A	Environmental Education	2	0	0	2	0	VAC
1	2	DEN002C	Professional Skills	1	0	0	1	1	AEC
2	2	DEN002D	Professional Skills Lab	0	0	2	2	1	AEC
3	2	DMA022A	Mathematics for AI	3	1	0	4	4	F
4	2	BCO002B	Data Structures and Algorithms	3	1	0	4	4	Core
5	2	DCO001B	Computer Programming in C++	2	0	0	2	2	Foundation
6	2	BCO005B	Data Structure and Algorithms Lab	0	0	2	2	1	Core
7	2	DCO018A	Advance Excel	0	0	4	4	2	SEC
8	2	DCO02B	Computer Programming in C++ Lab	0	0	4	4	2	Foundation
9	2		Inculcation of Human Values and Professional Ethics in Higher Education Institutions	2	0	0	2	2	VAC
10	2	DCO006A	Engineering workshop	0	0	2	2	1	Foundation
11	2	DLW001A	Indian Constitution	2	0	0	2	0	VAC

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1	3	BCO 011B	Computer Networks	3	0	0	3	3	Core
2	3	BAS 007B	Discrete Mathematics	3	0	0	3	3	Foundation
3	3	BCO001B	Software Engineering	3	0	0	3	3	Core
4	3	BCO008B	Operating Systems	3	0	0	3	3	Core
5	3	BCO 081C	Python Programming	2	0	0	2	2	Core
6	3	BCO 082C	Python Programming LAB	2	0	0	2	2	Core
7	3	BCO 014B	Operating Systems Lab	0	0	2	2	1	Core
8	3	BCO594A	Computer Networks Lab	0	0	2	2	1	Core
9	3	DBA112A	Leadership and Management Skills	2	0	0	2	2	AEC
10	3	BCO610A	Prompt Engineering for C and C++	0	0	4	4	2	SEC
11	3		Any of IKS Basic Courses	2	0	0	2	2	VAC
1	4		Open Elective-I	3	0	0	3	3	Multidisciplinary
2	4	BCO 606A	Introduction to Data Science	3	0	0	3	3	Core
3	4	BCO009B	Computer Organization and Design	3	0	0	3	3	Core
4	4	BCO010C	Database Management Systems	3	1	0	4	4	Core
5	4	BCO611A/BCO613A	Google Cloud Computing Fundamental/Salesforce Administrator LAB	0	0	2	2	1	Department Elective
6	4	BCO636A	Machine Learning	3	0	0	3	3	S
7	4	BCO637A	Machine Learning Lab	0	0	2	2	1	S
8	4	BCO 013B	Database Management Systems Lab	0	0	2	2	1	Core
9	4		Universal Human Value	2	0	0	2	2	AEC
10	4	BCO612A	Competitive Coding using AI (DSA)	0	0	4	4	2	SEC
11	4		Any of IKS Elective Course	2	0	0	2	2	VAC

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1	5	BCO017B	Formal Languages & Automation Theory	3	1	0	4	4	Core
2	5	BCO023B	Design & Analysis of Algorithms	3	1	0	4	4	Core
3	5		Department Elective I -DL	3	0	0	3	3	S
4	5		Department Elective II - LLM	3	0	0	3	3	S
5	5	BCO 074B	Minor Project	0	0	8	8	4	Core
6	5		Open Elective II	3	0	0	3	3	Multidisciplinary
7	5	BCO 025B	Design & Analysis of Algorithms Lab	0	0	2	2	1	Core
8	5	BCO639A	Deep Learning Lab	0	0	2	2	1	S
9	5	BCO617A	Large Language Modelling Lab	0	0	2	2	1	S
10	5	BCO571A	Prompt Engineering With Java and Python	0	0	4	4	2	SEC
1	6	BCO 028A	Compiler Construction	3	1	0	4	4	Core
2	6		Department Elective 3	3	0	0	3	3	S
3	6		Department Elective 4	3	0	0	3	3	S
4	6	BCO007C	Computer Graphics	3	0	0	3	3	Core
5	6	BCO 031B	Compiler Design Lab	0	0	2	2	1	Core
6	6	BCO641A	Natural Language Processing lab	0	0	2	2	1	S
7	6	BCO 015B	Computer Graphics Lab	0	0	2	2	1	Core
8	6		Open Elective III	3	0	0	3	3	Multidisciplinary
9	6	BCO672A	Computer Vision and Image Processing LAB	0	0	2	2	1	S
10	6	BCO643A	Machine Learning and Capston Project Using Prompt Engineering	0	0	6	6	3	Core

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1	7	BCO ****	Department Elective 5	3	0	0	3	3	Department Elective
2	7	BCO ****	Department Elective 6	3	0	0	3	3	Department Elective
3	7	BCO ****	Department Elective 7	3	0	0	3	3	Department Elective
4	7	BCO ****	Department Elective 6 lab	0	0	2	2	1	Department Elective
5	7	BCO ****	Department Elective 7 Lab	0	0	2	2	1	Department Elective
6	7	BCO 207A	Technical Writing	0	0	2	2	1	Core
1	8	BCO034C	Industry Internship	0	0	32	32	16	Core
						Total Credit:		166	