

### B.Tech. CSE Course Structure (2025-2029) -DSDA (SAMATRIX)

Sr. No.	Semester	Corse 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 La	0	0	2	2	1	Foundation
8	1	JIC001A	Entrepreneurship Development	0	0	2	2	1	SEC
9	1	BCO570A	Digital Data and AI Literacy	0	0	4	4	2	SEC
10	I	BCO572A	Decoding Data: Learn AI, ML, DS & Analytics	2	0	0	2	2	SEC
11	1	BCO573A	Decoding Data: Learn AI, ML, DS & Analytics la	0	0	2	2	1	SEC
12	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	<i>DMA025A</i>	Mathematics-II	3	1	0	4	4	Foundation
4	2	DCO001B	Computer Programming in C++	2	0	0	2	2	Foundation
5	2	BCO169C	Data Analysis using Python	2	0	0	2	2	Core
6	2	BCO574A	Data Analysis using Python 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 Et	2	0	0	2	2	VAC
10	2	<i>DCO006A</i>	Engineering workshop	0	0	2	2	1	Foundation
11	2	<i>DLW001A</i>	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	BCO002B	Data Structures and Algorithms	3	1	0	4	4	Core
3	3	BAS 007B	Discrete Mathematics	3	0	0	3	3	Foundation
4	3	BCO001B	Software Engineering	3	0	0	3	3	Core
5	3	BCO591A	Statistical Modelling and Data Reasoning with Py	2	0	0	2	2	Core
6	3	BCO280C	R Programming for Data Science	2	0	0	2	2	Core
7	3	BCO592A	R Programming for Data Science Lab	0	0	2	2	1	Core
8	3	BCO593A	Statistical Modelling and Data Reasoning with Py	0	0	2	2	1	Core
9	3	BCO008B	Operating Systems	3	0	0	3	3	Core
10	3	BCO005B	Data Structure and Algorithms Lab	0	0	2	2	1	Core
11	3	BCO 014B	Operating Systems Lab	0	0	2	2	1	Core
12	3	BCO594A	Computer Networks Lab	0	0	2	2	1	Core
13	3	DBA112A	Leadership and Management Skills	2	0	0	2	2	AEC
14	3	BCO610A	Prompt Engineering for C and C++	0	0	4	4	2	SEC
15	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 0239C	Machine Learning and Pattern Recognition	2	0	0	2	2	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/BCO	Google Cloud Computing Fundamental/Salesforce	0	0	2	2	1	Department Elective
6	4	BCO 013B	Database Management Systems Lab	0	0	2	2	1	Core
7	4		Machine Learning and Pattern Recognition Lab	0	0	2	2	1	Core
8	4	BCO644A	Machine Learning with R,Python,Scikit-learn,MatplotLib,Tensor flow	2	0	0	2	2	Core
9	4	BCO645A	Machine Learning with R,Python,Scikit-learn,MatplotLib,Tensor flow Lab	0	0	2	2	1	Core
10	4		Universal Human Value	2	0	0	2	2	AEC
11	4	BCO612A	Competitive Coding using AI (DSA)	0	0	4	4	2	SEC
12	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	BCO ****	Department Elective 1	3	0	0	3	3	Department Elective
4	5	BCO ****	Department Elective 2	3	0	0	3	3	Department Elective
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	<b>BCO646A</b>	Scala for Data Science Lab	0	0	2	2	1	Department Elective
9	5	BCO581A	Neural Networks and Deep Learning Lab	0	0	2	2	1	SEC
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	BCO ****	Department Elective 3	3	0	0	3	3	Department Elective
3	6	BCO ****	Department Elective 4	3	0	0	3	3	Department Elective
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	BCO583A	Natural Language Processing & Generative AI Lab	0	0	2	2	1	Department Elective
7	6	BCO 015B	Computer Graphics Lab	0	0	2	2	1	Core
8	6	BCO648A	Big Data Analytics Lab	0	0	2	2	1	Core
9	6		<b>Open Elective III</b>	3	0	0	3	3	Multidisciplinary
10	6	BCO642A	Machine Learning	1	0	0	1	1	Core
11	6	BCO643A	Machine Learning and Capston Project Using Pro	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	BCO649A	Data Visualization Lab	0	0	2	2	1	Department Elective
5	7	BCO650A	Devops for web development Lab	0	0	2	2	1	Department Elective
6	7	BCO 207A	Technical Writing	0	0	2	2	1	Core
1	8	BCO 034C	Industry Internship	0	0	32	32	16	Core
<b>Total Credit</b>								<b>171</b>	