



**SCHOOL OF
ENGINEERING**

Dayananda Sagar University

School of Engineering

Devarakagalahalli, Harohalli, Kanakapura Road, Ramanagara Dt., Bengaluru- 562112

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
(Artificial Intelligence & Machine Learning)



SCHEME FOR BACHELOR OF TECHNOLOGY (B.Tech) COMPUTER SCIENCE & ENGINEERING (Artificial Intelligence & Machine Learning)

7TH & 8th Sem / 4TH Year
(With effect from 2021-25)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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III SEM –CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SE M	COURSE CODE
1	121	21CS2301	DISCRETE MATHEMATICAL STRUCTURES	CR	3	-	-	-	3	*	***
2	121	21CS2302	DATA STRUCTURES	CR	3	-	-	-	3	*	***
3	121	21CS2303	DIGITAL ELECTRONICS & LOGIC DESIGN	CR	3	-	-	-	3	*	***
4	121	21CS2304	FULL STACK DEVELOPMENT	CR	2	-	2	-	3	*	***
5	121	21CS2305	COMPUTATIONAL THINKING WITH PYTHON	CR	2	-	2	-	3	*	***
6	121	21AM2301	PROBABILITY AND STATISTICS	CR	3	-	-	-	3	*	***
7	121	21CS2307	DATA STRUCTURES LAB	CR	-	-	2	-	1	*	***
	121	21CS2308	DIGITAL ELECTRONICS & LOGIC DESIGN LAB				2		1		
9	121	21CS2309	MANAGEMENT AND ENTREPRENEURSHIP	CR	2	-	-	-	2	*	***
10	121	21CS2310	LIBERAL STUDIES – I	CR	1	-	-	-	1	*	***
					19	-	08	-	23		

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

IV SEM –CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	121	21AM2401	ARTIFICIAL INTELLIGENCE	CR	3	-	-	-	3	*	***
2	121	21CS2402	DESIGN AND ANALYSIS OF ALGORITHMS	CR	3	-	-	-	3	*	***
3	121	21CS2403	PRINCIPLES OF MICROPROCESSORS AND COMPUTER ORGANIZATION	CR	4	-	-	-	4	*	***
4	121	21CS2404	FINITE AUTOMATA & FORMAL LANGUAGES	CR	3	-	2	-	4	*	***
5	121	21CS2405	SOFTWARE ENGINEERING AND PROJECT MANAGEMENT	CR	3	-	-	-	3	*	***
6	121	21AM2402	FOUNDATION OF DATA SCIENCE	CR	3	-	-	-	3	*	***
7	121	21CS2407	DESIGN AND ANALYSIS OF ALGORITHMS LAB	CR	-	-	2	-	1	*	***
8	121	21AM2403	ARTIFICIAL INTELLIGENCE LABORATORY	CR	-	-	2	-	1	*	***
9	121	21CS2409	SPECIAL TOPICS – I	CR	-	-	-	4	2	*	***
10	121	21CS2410	LIBERAL STUDIES – II	CR	1	-	-	-	1	*	***
					19	-	08	04	25		

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V SEM – CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

SL	PROGR AM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
1	121	21AM3501	DBMS	CR	3	-	-	-	3	*	***
2	121	21AM3502	INTRODUCTION TO NETWORKS AND CYBERSECURITY	CR	3	-	2	-	4	*	***
3	121	21AM3503	OOP WITH JAVA	CR	3	-	-	-	3	*	***
4	121	21AM3504	MACHINE LEARNING	CR	3	-	2	-	4	IV	***
5	121	21AM35XX	PROFESSIONAL ELECTIVE-1	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
6	121	21OEXXX	OPEN ELECTIVE-1	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
7	121	21AM3505	SPECIAL TOPICS -II	CR	-	-	4	-	2	*	***
8	121	21AM3506	DBMS LAB	CR	-	-	2	-	1	*	***
9	121	21AM3507	OOP WITH JAVA - LAB	CR	-	-	2	-	1	*	***
					18	-	14	-	24		

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V SEM-PROFESSIONAL ELECTIVES- I

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
1	121	21AM3508	PRINCIPLES OF ROBOTICS	CR	3	-	-	-	3	*	AI, CTPY
2	121	21AM3509	ML FOR PATTERN RECOGNITION	CR	3	-	-	-	3	*	AI & CTPY
3	121	21AM3510	OPERATING SYSTEM WITH UNIX	CR	3	-	-	-	3	*	SEPM

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V SEM-OPEN ELECTIVE-I

S L	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
1	121	210E0026	INDUSTRIAL ROBOTICS	CR	3	-	-	-	3	*	***
2	121	210E0001	ARTIFICIAL INTELLIGENCE	CR	3	-	-	-	3	*	***

VI SEM – CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

SL	PROG RAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
1	121	21AM3601	CDSS	CR	3	-	-	-	3	*	***
2	121	21AM3602	NATURAL LANGUAGE MODELS	CR	3	-	-	-	3	*	***
3	121	21AM3603	DEEP LEARNING & COMPUTER VISION	CR	3	-	-	-	3	*	***
4	121	21AM36XX	PROFESSIONAL ELECTIVE- 2		3	-	-	-	3	-	AS INDICATED IN ELECTIVE LIST
5	121	21AM36XX	PROFESSIONAL ELECTIVE-3	CR	3	-	-	-	3	IV	AS INDICATED IN ELECTIVE LIST
6	121	210EXXXX	OPEN ELECTIVE-2	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
7	121	21AM3604	CDSS Lab	CR	-	-	2	-	1	*	***
8	121	21AM3605	DEEP LEARNING AND COMPUTER VISION LAB		-	-	2	-	1	*	***
					18	-	14	-	20		

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– SEMINAR/PROJECT, C – NO. OF CREDITS

VI SEM-PROFESSIONAL ELECTIVES – II & III

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
Professional Elective-II											
1	121	21AM3606	EXPLAINABLE AI	CR	3	-	-	-	3	*	
2	121	21AM3607	MACHINE LEARNING FOR HEALTH CARE	CR	3	-	-	-	3	*	
3	121	21AM3608	DIGITAL SIGNAL PROCESSING	CR	3	-	-	-	3	*	
4	121	21AM3609	REINFORCEMENT LEARNING	CR	3	-	-	-	3	*	
Professional Elective-III											
1	121	21AM3610	INDUSTRIAL ROBOTICS	CR	3	-	-	-	3	*	
2	121	21AM3611	INTRODUCTION TO IOT & EMBEDDED COMPUTING	CR	3	-	-	-	3	*	
3	121	21AM3612	ADVANCED DATA SCIENCE	CR	3	-	-	-	3	*	

VI SEM-OPEN ELECTIVE- I

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
1	121	21OE0036	DEEP LEARNING	CR	3	-	-	-	3	*	***

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VII SEM – CSE (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

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					L	T	P	S/P	C	SEM	Course code
1	121	21AM47XX	PROFESSIONAL ELECTIVE- IV	CR	3	-	-	-	3	-	AS INDICATED IN ELECTIVE LIST
2	121	21AM47XX	PROFESSIONAL ELECTIVE- V/MOOC COURSE	CR	3	-	-	-	3	-	AS INDICATED IN ELECTIVE LIST
3	121	21OEXXXX	OPEN ELECTIVE-III	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
4	121	21AM4701	CAPESTONE PROJECT- PHASE:1	CR	-	-	6	-	3	-	
5	121	21AM4702	SKILL ENHANCEMENT COURSE (ADVANCED JAVA)	CR	1	-	2	-	2	-	
					10	-	5	-	14		

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VII SEM-PROFESSIONAL ELECTIVES – II & III

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
Professional Elective-IV											
1	121	21AM4703	ADVANCE DEEP LEARNING	CR	3	-	-	-	3	*	
2	121	21AM4704	SPEECH PROCESSING & NLU	CR	3	-	-	-	3	*	
3	121	21AM4705	UG RESEARCH PROJECT -1	CR	-	-	-	6	3	*	
Professional Elective-V											
1	121	21AM4706	BIG DATA ANALYTICS	CR	3	-	-	-	3	*	
2	121	21AM4707	GPU ARCHITECTURE AND PROGRAMMING	CR	3	-	-	-	3	*	
3	121	21AM4708	CLOUD COMPUTING	CR	3	-	-	-	3	*	
4	121	CID*	MOOC COURSE	CR	3	-	-	-	3	*	
Open Elective-III											
1	121	210E0052	RESPONSIBLE AI & ETHICS	CR	3	-	-	-	3	*	

CID* - NPTEL COURSE ID

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					L	T	P	S/P	C	SEM	Course code
1	121	21AM48XX	PROFESSIONAL ELECTIVE- VI	CR	3	-	-	-	3	-	AS INDICATED IN ELECTIVE LIST
2	121	21AM4801	CAPSTONE PROJECT - Phase: 2	CR	-	-	9	-	6	-	
3	121	21AM4802	INTERNSHIP	CR	-	-	6	-	3	-	
					3	-	13	-	12		

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VIII SEM-PROFESSIONAL ELECTIVES - II & III

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	Course code
Professional Elective-VI											
1	121	21AM4803	GENERATIVE AI	CR	3	-	-	-	3	*	
2	121	21AM4804	FINANCIAL TECHNOLOGY (FINTECH)	CR	3	-	-	-	3	*	
3	121	21AM4805	UG RESEARCH PROJECT -2	CR	-	-	-	6	3	*	