

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING



SCHEME & SYLLABUS
FOR
BACHELOR OF TECHNOLOGY (B.Tech.) – 2020
COMPUTER SCIENCE & ENGINEERING
(CSE)
(WITH EFFECT FROM 2020-21)

SCHEME – B.TECH – 2020-21 ONWARDS

III SEM – COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103	20CS2301	DISCRETE MATHEMATICAL STRUCTURES	CR	3	-	-	-	3	*	***
2	103	20CS2302	DATA STRUCTURES	CR	3	-	-	-	3	I/II	20EN1103
3	103	20CS2303	DIGITAL ELECTRONICS & LOGIC DESIGN	CR	3	-	-	2	4	*	***
4	103	20CS2304	DATABASE MANAGEMENT SYSTEMS	CR	3	-	-	-	3	*	***
5	103	20CS2305	COMPUTATIONAL THINKING WITH PYTHON	CR	3	-	-	-	3	*	***
6	103	20CS2306	AGILE SOFTWARE ENGINEERING	CR	2	-	-	2	3	*	***
7	103	20CS2307	DATA STRUCTURES LAB	CR	-	-	2	-	1	*	***
8	103	20CS2308	DATABASE MANAGEMENT SYSTEMS LAB	CR	-	-	2	-	1	*	***
9	103	20CS2309	MANAGEMENT AND ENTREPRENEURSHIP	CR	2	-	-	-	2	*	***
10	103	20CS2310	LIBERAL STUDIES – I	CR	1	-	-	-	1	*	***
					20	-	04	04	24		

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

SCHEME – B.TECH – 2020-21 ONWARDS

IV SEM – COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103	20CS2401	PROBABILITY AND STATISTICS	CR	3	-	-	-	3	*	***
2	103	20CS2402	OBJECT ORIENTED DESIGN AND PROGRAMMING	CR	3	-	-	-	3	*	***
3	103	20CS2403	PRINCIPLES OF MICROPROCESSORS AND COMPUTER ORGANIZATION	CR	4	-	-	-	4	*	***
4	103	20CS2404	FINITE AUTOMATA & FORMAL LANGUAGES	CR	3	-	-	2	4	*	***
5	103	20CS2405	INTRODUCTION TO NETWORKS & CYBERSECURITY	CR	3	-	-	-	3	*	***
6	103	20CS2406	FULL STACK DEVELOPMENT	CR	2	-	-	2	3	*	***
7	103	20CS2407	OBJECT ORIENTED PROGRAMMING LAB	CR	-	-	2	-	1	*	***
8	103	20CS2408	MICROPROCESSORS LABORATORY	CR	-	-	2	-	1	*	***
9	103	20CS2409	SPECIAL TOPICS - I	CR	-	-	-	4	2	*	***
10	103	20CS2410	LIBERAL STUDIES – II	CR	1	-	-	-	1	*	***
					19	-	04	08	25		

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SCHEME – B.TECH – 2020-21 ONWARDS
V SEM – COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103	20CS3501	COMPUTER NETWORKS	CR	3	-	2	-	4	*	***
2	103	20CS3502	DESIGN AND ANALYSIS OF ALGORITHMS	CR	3	-	-	-	3	*	***
3	103	20CS3503	OPERATING SYSTEMS	CR	3	1	-	-	4	*	***
4	103	20CS3504	MACHINE LEARNING	CR	3	-	2	-	4	*	***
5	103	20CS35XX	PROFESSIONAL ELECTIVE-1	CR	3	-	-	-	3	*	
6	103	20OE00XX	OPEN ELECTIVE-1	CR	3	-	-	-	3	*	***
7	103	20CS3505	DESIGN AND ANALYSIS OF ALGORITHMS LAB	CR	-	-	2	-	1	*	***
8	103	20CS3506	OPERATING SYSTEMS LAB	CR	-	-	2	-	1	*	***
	103	20CS3507	SPECIAL TOPICS -II	CR	-	-	-	4	2	*	***
					18	1	8	4	25		

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SCHEME – B.TECH – 2020-21 ONWARDS
V SEM-PROFESSIONAL ELECTIVE – I

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/ P	C	SEM	COURSE CODE
1	20CS3508	RANDOMIZED AND APPROXIMATE ALGORITHMS	03	-	-	-	03	-	**
2	20CS3509	GRAPH THEORY	03	-	-	-	03	-	**
3	20CS3510	MICROCONTROLLERS AND EMBEDDED SYSTEMS	03	-	-	-	03	-	**
4	20CS3511	VLSI DESIGN	03	-	-	-	03	-	**
5	20CS3512	INTERNET OF THINGS	03	-	-	-	03	-	**
6	20CS3513	ARTIFICIAL INTELLIGENCE	03	-	-	-	03	-	**
7	20CS3514	DATA WAREHOUSE AND DATA MINING	03	-	-	-	03	-	**
8	20CS3515	CLOUD COMPUTING	03	-	-	-	03	-	**
9	20CS3516	BIOLOGICAL FOUNDATIONS OF AI AND ML	03	-	-	-	03	-	**
10	20CS3517	QUANTUM MECHANICS	03	-	-	-	03	-	**

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SCHEME - B. TECH – 2020-21 ONWARDS
VI SEM – COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103	20CS3601	COMPILER DESIGN AND SYSTEM SOFTWARE	CR	3	1	-	-	4	*	***
2	103	20CS3602	SECURE PROGRAMMING	CR	2	-	2	-	3	I/II	20EN1103
3	103	20CS3603	CLOUD APPLICATION DEVELOPMENT	CR	3	-	-	-	3	*	***
4	103	20CS36XX	PROFESSIONAL ELECTIVE-2	CR	3	-	-	-	3	*	***
5	103	20CS36XX	PROFESSIONAL ELECTIVE-3	CR	3	-	-	-	3	*	***
6	103	20OE00XX	OPEN ELECTIVE-2	CR	3	-	-	-	3	*	***
7	103	20CS3604	COMPILER DESIGN AND SYSTEM SOFTWARE LAB	CR	-	-	2	-	1	*	***
8	103	20CS3605	CLOUD APPLICATION DEVELOPMENT LAB	CR	-	-	2	-	1	*	***
					17	01	06	-	21		

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VI SEM-PROFESSIONAL ELECTIVE – II & III

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	20CS3606	SOFT COMPUTING	3	-	-	-	03	*	***
2	20CS3607	EDGE COMPUTING	3	-	-	-	03	*	***
3	20CS3608	DISTRIBUTED COMPUTING	3	-	-	-	03	*	***
4	20CS3609	COMPUTER ARCHITECTURE	3	-	-	-	03	*	***
5	20CS3610	BLOCK CHAIN AND DISTRIBUTED LEDGER	3	-	-	-	03	*	***
6	20CS3611	MOBILE COMPUTING AND APPS DEVELOPMENT	3	-	-	-	03	*	***
7	20CS3612	SOFTWARE DEFINED NETWORKS	3	-	-	-	03	*	***
8	20CS3613	MACHINE LEARNING FOR HEALTHCARE	3	-	-	-	03	*	***
9	20CS3614	DEEP LEARNING	3	-	-	-	03	*	***
10	20CS3615	DIGITAL IMAGE PROCESSING	3	-	-	-	03	*	***
11	20CS3616	HUMAN COMPUTER INTERFACE	3	-	-	-	03	*	***
12	20CS3617	UG RESEARCH PROJECT-I/PRODUCT DEVELOPMENT FOUNDATION-I	-	-	-	06	03	*	***
13	20CS3618	COMPUTATIONAL GEOMETRY	3	-	-	-	03	*	***
14	20CS3619	GAME THEORY	3	-	-	-	03	*	***
15	20CS3620	DATA SCIENCE	3	-	-	-	03	*	***
16	20CS3621	BIG DATA ANALYTICS	3	-	-	-	03	*	***
17	20CS3622	SEMANTIC WEB	3	-	-	-	03	*	***
18	20CS3623	COMPUTATIONAL METHODS IN NEUROSCIENCE	3	-	-	-	03	*	***
19	20CS3624	QUANTUM COMPUTATION	3	-	-	-	03	*	***
20	20CS3625	MOOC COURSE	3	-	-	-	03	*	***

SCHEME – B. TECH – 2020-21 ONWARDS
VII SEM – COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING				PREREQUISITE	
					L	T	P	S/P	SEM	COURSE CODE
1	103	20CS47XX	PROFESSIONAL ELECTIVE – 4	CR	3	-	-	-	3	AS INDICATED IN ELECTIVE LIST
2	103	20CS47XX	PROFESSIONAL ELECTIVE – 5/MOOC	CR	3	-	-	-	3	AS INDICATED IN ELECTIVE LIST
3	103	20OEXXXX	OPEN ELECTIVE-3	CR	3	-	-	-	3	***
4	103	20CS4701	PROJECT PHASE – I	CR	-	-	-	6	3	***
					09	-	-	06	12	

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SCHEME – B. TECH – 2020-21 ONWARDS
VIII SEM – COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING				PREREQUISITE	
					L	T	P	S/P	SEM	COURSE CODE
1	103	20CS48XX	PROFESSIONAL ELECTIVE – 6	CR	3	-	-	-	3	AS INDICATED IN ELECTIVE LIST
2	103	20CS4801	PROJECT PHASE – II	CR	-	-	-	12	6	AS INDICATED IN ELECTIVE LIST
3	103	20CS4802	INTERNSHIP	CR	-	-	-	6	3	***
					03	-	-	18	12	

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VII SEM-PROFESSIONAL ELECTIVE – 4 & 5

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	20CS4702	ADVANCED DRIVING ASSISTANCE SYSTEMS	03	-	-	-	03	*	***
2	20CS4703	WIRELESS NETWORKS	03	-	-	-	03	*	***
3	20CS4704	CRYPTOGRAPHY	03	-	-	-	03	*	***
4	20CS4705	NATURAL LANGUAGE PROCESSING	03	-	-	-	03	*	***
5	20CS4706	PATTERN RECOGNITION	03	-	-	-	03	*	***
6	20CS4707	SEQUENCE NETWORKS AND GAN	03	-	-	-	03	*	***
7	20CS4708	UG RESEARCH PROJECT-II/PRODUCT DEVELOPMENT FOUNDATION-II	-	-	-	06	03	*	***
8	20CS4709	AWS WEB SERVICES	03	-	-	-	03	*	***
9	20CS4710	AUGMENTED REALITY AND VIRTUAL REALITY	03	-	-	-	03	*	***
10	20CS4711	MOOC	03	-	-	-	03	*	***

VIII SEM-PROFESSIONAL ELECTIVE – 6

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	20CS4803	PARALLEL COMPUTING	3	-	-	-	3	*	***
2	20CS4804	SOCIAL NETWORKS AND ANALYTICS	3	-	-	-	3	*	***
3	20CS4805	COMPUTER VISION	3	-	-	-	3	*	***
	20CS4806	CLOUD INFRASTRUCTURE MANAGEMENT	3	-	-	-	3	*	***
4	20CS4807	MOOC	3	-	-	-	3	*	***