

DAYANANDA SAGAR UNIVERSITY
SHAVIGE MALLESHWARA HILLS, KUMARASWAMY LAYOUT
BENGALURU – 560 111, KARNATAKA.

SCHOOL OF ENGINEERING



SCHEME & SYLLABUS
FOR
BACHELOR OF TECHNOLOGY (B.Tech) – I YEAR
COMMON TO ALL BRANCHES
(With effect from 2019-20)

SCHEME - B.TECH - 2019 -20 ONWARDS**I SEM - CHEMISTRY CYCLE**

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	101 to 105	19EN1101	ENGINEERING MATHEMATICS – I	CR	03	01	--	--	04	50	50
2	101 to 105	19EN1102	ENGINEERING CHEMISTRY	CR	03	01	--	--	04	50	50
3	101 to 105	19EN1103	COMPUTER PROGRAMMING & PROBLEM SOLVING	CR	03	--	--	--	03	50	50
4	101 to 105	19EN1104	BASIC ELECTRONICS	CR	03	--	02	--	04	50	50
5	101 to 105	19EN1171	ENGINEERING CHEMISTRY LABORATORY	CR	--	--	03	--	1.5	50	50
6	101 to 105	19EN1172	COMPUTER PROGRAMMING & PROBLEM SOLVING LABORATORY	CR	--	--	04	--	02	50	50
7	101 to 105	19EN1173	WORKSHOP PRACTICE	CR	01	--	03	--	2.5	50	50
GRAND TOTAL = 700					13	02	12		21	350	350
8	101 to 105	19AU0004	CONSTITUTION OF INDIA AND PROFESSIONAL ETHICS	AU	02	--	--	--	--	--	50
9	101 to 105	19AU0021	KANNADA KALI – II	AU	02	--	--	--	--	--	50
		19AU0022	KANNADA MANASU								

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SCHEME - B.TECH - 2019 -20 ONWARDS

I SEM - PHYSICS CYCLE

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/ P	C	CIA	END EXAM
1	101 to 105	19EN1101	ENGINEERING MATHEMATICS – I	CR	03	01	--	--	04	50	50
2	101 to 105	19EN1202	ENGINEERING PHYSICS	CR	03	01	--	--	04	50	50
3	101 to 105	19EN1203	BASIC ELECTRICAL ENGINEERING	CR	03	--	--	--	03	50	50
4	101 to 105	19EN1204	BIOLOGICAL SCIENCES	CR	02	--	--	--	02	50	50
5	101 to 105	19EN1205	TECHNICAL COMMUNICATION	CR	02	--	03	--	3.5	50	50
6	101 to 105	19EN1271	ENGINEERING GRAPHICS & DRAWING	CR	01	--	04	--	03	50	50
7	101 to 105	19EN1272	ENGINEERING PHYSICS LABORATORY	CR	--	--	03	--	1.5	50	50
GRAND TOTAL = 700					14	02	10		21	350	350
8	101 to 105	19AU0009	ENVIRONMENTAL SCIENCES	AU	02	--	--	--	--	--	50
9	101 to 105	19AU0005	DESIGN THINKING & INNOVATION	AU	01	--	03	--	--	--	50

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SCHEME - B.TECH - 2019 -20 ONWARDS

II SEM - PHYSICS CYCLE

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	101 to 105	19EN1201	ENGINEERING MATHEMATICS – II	CR	03	01	--	--	04	50	50
2	101 to 105	19EN1202	ENGINEERING PHYSICS	CR	03	01	--	--	04	50	50
3	101 to 105	19EN1203	BASIC ELECTRICAL ENGINEERING	CR	03	--	--	--	03	50	50
4	101 to 105	19EN1204	BIOLOGICAL SCIENCES	CR	02	--	--	--	02	50	50
5	101 to 105	19EN1205	TECHNICAL COMMUNICATION	CR	02	--	03	--	3.5	50	50
6	101 to 105	19EN1271	ENGINEERING GRAPHICS & DRAWING	CR	01	--	04	--	03	50	50
7	101 to 105	19EN1272	ENGINEERING PHYSICS LABORATORY	CR	--	--	03	--	1.5	50	50
GRAND TOTAL = 700					14	02	10		21	350	350
8	101 to 105	19AU0009	ENVIRONMENTAL SCIENCES	AU	02	--	--	--	--	--	50
9	101 to 105	19AU0005	DESIGN THINKING & INNOVATION	AU	01	--	03	--	--	--	50

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SCHEME - B.TECH - 2019 -20 ONWARDS

II SEM - CHEMISTRY CYCLE

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	101 to 105	19EN1201	ENGINEERING MATHEMATICS – II	CR	03	01	--	--	04	50	50
2	101 to 105	19EN1102	ENGINEERING CHEMISTRY	CR	03	01	--	--	04	50	50
3	101 to 105	19EN1103	COMPUTER PROGRAMMING & PROBLEM SOLVING	CR	03	--	--	--	03	50	50
4	101 to 105	19EN1104	BASIC ELECTRONICS	CR	03	--	02	--	04	50	50
5	101 to 105	19EN1171	ENGINEERING CHEMISTRY LABORATORY	CR	--	--	03	--	1.5	50	50
6	101 to 105	19EN1172	COMPUTER PROGRAMMING & PROBLEM SOLVING LABORATORY	CR	--	--	04	--	02	50	50
7	101 to 105	19EN1173	WORKSHOP PRACTICE	CR	01	--	03	--	2.5	50	50
GRAND TOTAL = 700					13	01	12		21	350	350
8	101 to 105	19AU0004	CONSTITUTION OF INDIA AND PROFESSIONAL ETHICS	AU	02	--	--	--	--	--	50
9	101 to 105	19AU0021	KANNADA KALI – II	AU	02	--	--	--	--	--	50
		19AU0022	KANNADA MANASU								

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SCHOOL OF ENGINEERING



SCHEME & SYLLABUS
FOR
BACHELOR OF TECHNOLOGY (B.Tech.) – 2019
COMPUTER SCIENCE & ENGINEERING
(CSE)
(WITH EFFECT FROM 2019-20)

SCHEME - B.TECH - 2019-20 ONWARDS

III SEM - COMPUTER SCIENCE & ENGINEERING

S L	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/ P	C	SEM	COURSE CODE
1	103	19CS2301	ENGINEERING MATHEMATICS – III – CSE & CST	CR	04	--	--	--	04	*	***
2	103	19CS2302	COMPUTATIONAL THINKING WITH PYTHON	CR	02	--	02	--	03	*	***
3	103	19CS2303	DIGITAL ELECTRONICS & LOGIC DESIGN	CR	03	--	02	--	04	*	***
4	103	19CS2304	DATA STRUCTURES AND APPLICATIONS	CR	03	--	02	--	04	I	19EN1103
5	103	19ENC004	FUNDAMENTALS OF ENGINEERING ECONOMICS	CR	03	--	--	--	03	*	***
6	103	19CS2305	ANALOG ELECTRONICS	CR	02	--	02	--	03	*	***
					17	--	08	--	21		

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SCHEME - B.TECH - 2019-20 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	19CS2401	DISCRETE MATHEMATICAL STRUCTURES	CR	03	01	--	--	04	*	***
2	103	19CS2402	PRINCIPLES OF MICROPROCESSORS & COMPUTER ORGANIZATION	CR	03	01	02	--	05	III	19CS2303
3	103	19CS2403	DESIGN & ANALYSIS OF ALGORITHMS	CR	03	01	02	--	05	III	19CS2304
4	103	19CS2404	SIGNALS SYSTEMS	CR	03	--	02	--	04	*	***
5	103	19CS2405	WEB TECHNOLOGIES	CR	02	--	--	--	02	*	***
6	103	19CS2406	SPECIAL TOPICS - I	CR	01	--	02		02	*	***
7	103	19CS2407	MANAGEMENT SCIENCES	CR	02	--	--	--	02	*	***
					17	03	08	--	24		

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SCHEME - B.TECH - 2019-20 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	19CS3501	FINITE AUTOMATA AND FORMAL LANGUAGES	CR	03	01	02	--	05	IV	19CS2401
2	103	19CS3502	OPERATING SYSTEMS	CR	03	01	02	--	05	*	***
3	103	19CS3503	OBJECT ORIENTED DESIGN AND PROGRAMMING WITH JAVA	CR	03	--	04	--	05	*	***
4	103	19CS3504	DATABASE MANAGEMENT SYSTEMS	CR	03	--	02	--	04	*	***
5	103	19CS35XX	PROFESSIONAL ELECTIVE - I	CR	AS INDICATED IN PROGRAM ELECTIVE LIST				03	AS INDICATED IN PROGRAM ELECTIVE LIST	
6	103	19CS3505	MINOR PROJECT	CR	--	--	--	04	02	*	***
					14	02	12	04	24		

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PROFESSIONAL ELECTIVE - I

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	19CS3511	CYBERSECURITY	03	-	-	-	03	*	***
2	19CS3512	CLOUD COMPUTING	02	-	02	-	03	*	***
3	19CS3513	VLSI DESIGN AND VERIFICATION	03	-	-	-	03	III	19CS2303
4	19CS3514	RANDOMIZED AND APPROXIMATE ALGORITHMS	03	-	-	-	03	IV	19CS2403
5	19CS3515	DEEP LEARNING	02	-	02	-	03	III	19CS2301
6	19CS3516	INTERNET OF THINGS	03	-	-	-	03	*	***
7	19CS3517	DIGITAL IMAGE PROCESSING	02	-	02	-	03	II	19EN1201

SCHEME - B.TECH - 2019-20 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	19CS3601	COMPILER DESIGN AND SYSTEMS SOFTWARE	CR	03	01	02	--	05	V	19CS3501
2	103	19CS3602	COMPUTER NETWORKS	CR	03	--	02	--	04	*	***
3	103	19CS3603	SOFTWARE ENGINEERING AND PROJECT MANAGEMENT	CR	03	--	02	--	04	*	***
4	103	19CS36XX	PROFESSIONAL ELECTIVE - II	CR	AS INDICATED IN PROGRAM ELECTIVE LIST				03	AS INDICATED IN PROGRAM ELECTIVE LIST	
5	103	19CS36XX	PROFESSIONAL ELECTIVE -III	CR					03		
6	103	19OEXXX	OPEN ELECTIVE - I	CR	03	--	--	--	03	*	***
7	103	19CS3604	SPECIAL TOPICS - II	CR	01	--	02	--	02	*	***
					17	01	12	--	24		

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PROFESSIONAL ELECTIVE – II & III

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	19CS3611	MACHINE LEARNING FOR HEALTHCARE	02	-	02	-	03	V	19CS3515
2	19CS3612	UG RESEARCH PROJECT-I/PRODUCT DEVELOPMENT FOUNDATION-I	-	-	-	06	03	*	***
3	19CS3613	DATA SCIENCE	02	-	02	-	03	III	19CS2301 & 19CS2302
4	19CS3614	MOBILE COMPUTING AND APPS DEVELOPMENT	02	-	02	-	03	V	19CS3503
5	19CS3615	COMPUTER ARCHITECTURE	03	-	-	-	03	IV	19CS2402
6	19CS3616	COMPUTATIONAL GEOMETRY	03	-	-	-	03	III	19CS2304
7	19CS3617	SOFT COMPUTING	03	-	-	-	03	IV	19CS2403
8	19CS3618	INTRODUCTION TO BLOCK CHAIN AND DISTRIBUTED LEDGER	02	-	02	-	03	*	***

SCHEME - B.TECH - 2019-20 ONWARDS

VII 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	19CS47XX	PROFESSIONAL ELECTIVE – IV	CR	AS INDICATED IN PROGRAM ELECTIVE LIST				03	AS INDICATED IN PROGRAM ELECTIVE LIST	
2	103	19CS47XX	PROFESSIONAL ELECTIVE – V/MOOCs	CR					03		
3	103	19OEXXX	OPEN ELECTIVE - II	CR	03	--	--	--	03	*	***
4	103	19CS4701	CYBER CRIMES, SECURITY POLICIES AND LAW	CR	02	--	--	--	02	*	***
5	103	19CS4702	MAJOR PROJECT STAGE - 1	CR			--	04	02	*	***
					15	02	-	04	19		

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PROFESSIONAL ELECTIVE – IV & V

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	19CS4711	MULTI CORE ARCHITECTURE	03	-	-	-	03	IV	19CS2402
2	19CS4712	PATTERN RECOGNITION	02	-	02	-	03	V	19CS3517
3	19CS4713	WIRELESS NETWORKS	03	-	-	-	03	VI	19CS3602
4	19CS4714	SEQUENCE NETWORKS AND GAN	02	-	02	-	03	V	19CS3515
5	19CS4715	CRYPTOGRAPHY	02	-	02	-	03	I	19EN1101
6	19CS4716	MOOC	-	-	-	-	03	*	***
7	19CS4717	UG RESEARCH PROJECT-II/PRODUCT DEVELOPMENT FOUNDATION-II	-	-	-	06	03	VI	19CS3612

SCHEME - B.TECH - 2019-20 ONWARDS

VIII 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	19CS48XX	PROFESSIONAL ELECTIVE-VI (BLENDED LEARNING)	CR	AS INDICATED IN PROGRAM ELECTIVE LIST				03	AS INDICATED IN PROGRAM ELECTIVE LIST	
2	103	19CS4801	MAJOR PROJECT STAGE-2	CR	--	--	--	18	09	*	***
					02	-	02	18	12		

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PROFESSIONAL ELECTIVE – IV & V

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1	19CS4811	IMAGE & VIDEO ANALYTICS ON THE EDGE	02	-	02	-	03	*	***
2	19CS4812	MOOC WITH BLENDED LEARNING	-	-	-	-	03	*	***
3	19CS4813	COMPUTER VISION	02	-	02	-	03	V	19CS3517
4	19CS4814	PARALLEL COMPUTING	03	-	-	-	03	IV	19CS2402
5	19CS4815	SOCIAL NETWORKS AND ANALYTICS	02	-	02	-	03	IV	19CS2401
6	19CS4816	HUMAN COMPUTER INTERFACE	03	-	-	-	03	V	19CS3503

OPEN ELECTIVES LIST - B.TECH PROGRAMME – 2019 20 Batch

(Updated as on 13.07.2021)

SL.No	COURSE CODE	COURSE TITLE	OFFERING DEPARTMENT
1	19OE0001	ARTIFICIAL INTELLIGENCE	CSE
2	19OE0002	DATA STRUCTURES & ALGORITHMS	CSE
3	19OE0003	WEB TECHNOLOGIES	CSE
4	19OE0004	SOCIAL NETWORKS & ANALYTICS	CSE
5	19OE0005	MANAGEMENT INFORMATION SYSTEM	CSE
6	19OE0006	FUNDAMENTALS OF CLOUD COMPUTING	CSE
7	19OE0007	MACHINE LEARNING WITH PYTHON	CSE
8	19OE0008	BUSINESS INTELLIGENCE	CSE
9	19OE0009	EVOLUTION OF TELECOM	ECE
10	19OE0010	SENSORS AND TRANSDUCERS	ECE
11	19OE0011	DIGITAL SYSTEM DESIGN	ECE
12	19OE0012	SENSORS, NETWORKS AND PROTOCOLS	ECE
13	19OE0013	IMAGE PROCESSING AND COMPUTER VISION	ECE
14	19OE0014	AUTOMOTIVE EMBEDDED SYSTEMS	ECE
15	19OE0015	AUTOMOBILE ENGINEERING	MECH
16	19OE0016	RAPID MANUFACTURING TECHNOLOGIES	MECH
17	19OE0017	ROBOTICS ENGINEERING	MECH
18	19OE0018	PRODUCT DESIGN & MANUFACTURING	MECH
19	19OE0019	RENEWABLE ENERGY SOURCES	MECH
20	19OE0020	MICRO ELECTRO MECHANICAL SYSTEMS (MEMS)	MECH
21	19OE0021	PRODUCT ENGINEERING AND ENTREPRENEURSHIP	CST
22	19OE0022	SMALL BUSINESS LAUNCH	CST
23	19OE0023	INTRODUCTION TO AEROSPACE ENGINEERING	ASE
24	19OE0024	AIRCRAFT SYSTEMS AND INSTRUMENTATION	ASE