Bachelor of Technology in Electronics Engineering (VLSI Design & Technology)
School of Electronics Engineering

Programme Credit Structure	Credits
Foundation Core Courses	49
Basic Sciences and Mathematics	24
Engineering Sciences	10
Humanities, Social Sciences and Management (HSM)	15
Discipline-linked Engineering Science Courses	10
Discipline Core Courses	53
Discipline Elective Courses	15
Open Elective Courses	15
Project and Internship	09
Total Graded Credit Requirement	151
Non-Graded Credit Requirement	11

Basic Sciences and Mathematics — 24

		L	T	P	C
BPHY101L	Engineering Physics	3	0	0	3
BPHY101P	Engineering Physics Lab	0	0	2	1
BCHY101L	Engineering Chemistry	3	0	0	3
BCHY101P	Engineering Chemistry Lab	0	0	2	1
BMAT101L	Calculus	3	0	0	3
BMAT101P	Calculus Lab	0	0	2	1
BMAT102L	Differential Equations and Transforms	3	1	0	4
BMAT201L	Complex Variables and Linear Algebra	3	1	0	4
BMAT202L	Probability and Statistics	3	0	0	3
BMAT202P	Probability and Statistics Lab	0	0	2	1

Engineering Sciences — 10

		L	T	P	C
BEEE102L	Basic Electrical and Electronics Engineering	3	0	0	3
BEEE102P	Basic Electrical and Electronics Engineering Lab	0	0	2	1
BCSE101E	Computer Programming: Python	1	0	4	3
BCSE103E	Computer Programming:Java	1	0	4	3

Humanities, Social Sciences and Management — 15

		L	T	P	C
BENG101N	Effective English Communication (NGC)	0	0	4	2
BENG101L	Technical English Communication	2	0	0	2
BENG101P	Technical English Communication Lab	0	0	2	1
BENG102P	Technical Report Writing	0	0	2	1
BSTS101P	Quantitative Skills Practice I	0	0	3	1.5
BSTS102P	Quantitative Skills Practice II	0	0	3	1.5
BSTS201P	Qualitative Skills Practice I	0	0	3	1.5
BSTS202P	Qualitative Skills Practice II	0	0	3	1.5
BFLE200L	Foreign Language	2	0	0	2
BHSM200L	HSM Elective	3	0	0	3

Discipline-linked Engineering Science Courses — 10

		L	T	P	C
BEVD101L	Electronic Materials	3	0	0	3
BECE201L	Physics of Semiconductor Devices	3	0	0	3
BECE203L	Circuit Theory	3	1	0	4

Discipline Core Courses — 53

		L	T	P	C
BECE102L	Digital Systems Design	3	0	0	3
BECE102P	Digital Systems Design Lab	0	0	2	1
BECE204L	Microprocessors and Microcontrollers	3	0	0	3
BECE204P	Microprocessors and Microcontrollers Lab	0	0	2	1
BECE302L	Control Systems	2	1	0	3
BECE303L	VLSI System Design	3	0	0	3
BECE303P	VLSI System Design Lab	0	0	2	1
BEVD202L	Electromagnetic Field Theory	3	0	0	3
BEVD203L	Signal Processing	3	0	0	3
BEVD204L	Electronic Circuits	3	0	0	3
BEVD204P	Electronic Circuits Lab	0	0	2	1
BEVD205L	Scripting Languages and Verification	3	0	0	3
BEVD205P	Scripting Languages and Verification Lab	0	0	2	1
BEVD206L	Semiconductor Device Modelling	2	0	0	2
BEVD206P	Semiconductor Device Modelling Lab	0	0	2	1
BEVD207L	Computer Architecture	3	0	0	3
BEVD301L	ASIC Design	3	0	0	3
BEVD301P	ASIC Design Lab	0	0	2	1
BEVD302L	Principles of Communication Systems	3	0	0	3
BEVD303L	CAD for IC Design	3	0	0	3
BEVD304L	CMOS Analog IC Design	3	0	0	3
BEVD304P	CMOS Analog IC Design Lab	0	0	2	1
BEVD305L	VLSI Technology	3	0	0	3
BEVD305P	VLSI Technology Lab	0	0	2	1

Discipline Elective Courses   15

BEVD208L	2D Materials and Devices	3	0	0	3
BEVD209L	Compound Semiconductors	3	0	0	3
BEVD210L	Quantum Technology for Electronics Engineers	3	0	0	3
BEVD211L	Thin Films Characterization	3	0	0	3
BEVD306L	Photovoltaics and Energy Conversion Devices	3	0	0	3
BEVD307L	Memory Devices and circuits	3	0	0	3
BEVD308L	Low Power VLSI Design	3	0	0	3
BEVD309L	Testing of VLSI Circuits	3	0	0	3
BEVD310L	Embedded System Design with FPGA	3	0	0	3
BEVD311L	VLSI Digital Signal Processing Systems	3	0	0	3
BEVD312L	Advanced Computer Architecture	3	0	0	3
BEVD313L	Computational Techniques	2	1	0	3
BEVD314L	Mixed Signal Circuit Design	3	0	0	3
BEVD315L	CMOS RF IC Design	3	0	0	3
BEVD401L	Electronics Packaging	3	0	0	3
BEVD402L	AI and Machine Learning for IC	3	0	0	3
BECE403L	Neuromorphic Computing	3	0	0	3
BECE404L	Design of CMOS Phase Locked Loop	3	0	0	3
BECE405L	Hardware Security	3	0	0	3
BECE406L	High Speed Interconnects for VLSI Design	3	0	0	3
BECE407L	Stacked IC Design	3	0	0	3
BECE408L	Verification Methodologies	3	0	0	3
BECE409L	Advanced Semiconductor Devices	3	0	0	3
BECE410L	Introduction to MEMS	3	0	0	3
BEVD391J	Technical Answers to Real Problems Project				3
BEVD392J	Design Project				3
BEVD393J	Laboratory Project				3
BEVD394J	Product Development Project				3
BEVD396J	Reading Course				3
BEVD397J	Special Project				3
BEVD398J	Simulation Project				3

Open Elective Courses   15

Engineering Disciplines | Projects | Sciences | Humanities | Social Sciences | Liberal Arts | Economics | Finance| Entrepreneurship | Management | Skills | Reading

Project and Internship   9

BEVD399J	Summer Industrial Internship	1
BEVD497J	Project-I	3
BEVD498J	Project-II / Internship	5
BEVD499J	One Semester Internship	14

Non-Graded Credit Requirement   11

BEVD101N	Introduction to Engineering	1
BSSC101N	Essence of Traditional Knowledge	2
BSSC102N	Indian Constitution	2
BEXC100N	Extracurricular Activities	2
BCHY102N	Environmental Sciences	2
BHUM101N	Ethics and Values	2