Higher Semester Schemes

B. Tech. Electronics Engineering (VLSI Design and Technology) Total Credit: 160

Third Semester						Fourth Semester					
Code	**Course Name**	**L**	**T**	**P**	**C**	**Code**	**Course Name**	**L**	**T**	**P**	**C**
MAS2001	Statistics & Probability	3	0	0	3	**MEE2001**	Engineering Economics	3	0	0	3
MBB21XX	Management of Technology	3	0	0	3	**VDT2201**	Electronic Devices-II	4	0	0	4
VDT2101	Electronic Devices-I	3	1	0	4	**VDT2202**	Computer & Processor Architecture	3	1	0	4
VDT2102	Digital Electronics	3	1	0	4	**VDT2220**	Flexi Core1	3	0	2	4
VDT2103	Circuits & network theory	3	0	2	4	**VDT22XX**	Program Elective 1	3	0	0	3
VDT2120	Flexi Core 2	3	0	2	4	**XXX00XX**	Open Elective 1	3	0	0	3
VDT2130	Electronic devices Lab-I	0	0	2	1	**VDT2230**	SPICE Lab	0	0	2	1
VDT2131	Digital Electronics Lab	0	0	2	1	**VDT2231**	Computer & Processor Architecture Lab	0	0	2	1
VDT2170	Project-based Learning 1	0	0	2	1	**VDT2270**	Project-based Learning 2	0	0	2	1
		18	2	10	25			19	1	8	24
	Total Contact Hours (L+T+P)	**30**					**Total Contact Hours (L+T+P)**				
Fifth Semester						**Sixth Semester**					
Code	**Course Name**	**L**	**T**	**P**	**C**	**Code**	**Course Name**	**L**	**T**	**P**	**C**
VDT3101	Digital VLSI Design	3	1	0	4	**VDT3201**	System Verilog for verification	3	1	0	4
VDT3102	Semiconductor Device Fabrication	3	1	0	4	**VDT32XX**	Program Elective 4	3	0	0	3
VDT3120	Flexi Core 3	4	0	0	4	**VDT32XX**	Program Elective 5	3	0	0	3
VDT31XX	Program Elective 2	3	0	0	3	**VDT32XX**	Program Elective 6	3	0	0	3
VDT31XX	Program Elective 3	3	0	0	3	**XXX00XX**	Open Elective 3	3	0	0	3
XXX00XX	Open Elective 2	3	0	0	3	**VDT3210**	Professional Practice	0	0	0	1
VDT3130	IC design Lab	0	0	2	1	**VDT3230**	System Verilog Lab	0	0	2	1
VDT3131	Device Fabrication Lab	0	0	2	1	**VDT3231**	Advanced System Design Lab	0	0	2	1
VDT3170	Project-based Learning 3	0	0	2	1	**VDT3270**	Project-based Learning 4	0	0	6	3
		19	2	6	24			15	1	10	22
	Total Contact Hours (L+T+P)	**27**					**Total Contact Hours (L+T+P)**	**26**			
Seventh Semester						**Eighth Semester**					
Code	**Course Name**	**L**	**T**	**P**	**C**	**Code**	**Course Name**	**L**	**T**	**P**	**C**
VDT41XX	Program Elective 7	3	0	0	3	**VDT4270**	Major Project	0	0	0	12
VDT41XX	Program Elective 8	3	0	0	3						
XXX00XX	Open Elective 4	3	0	0	3						
XXX00XX	Open Elective 5	3	0	0	3						
VDT4170	Internship (Industry or Research)	0	0	0	1						
					13						12
	Total Contact Hours (L+T+P)	**12 Hours**					**Total Contact Hours (L+T+P)**				

Flexi Core

Flexi Core 1	Flexi Core 2	Flexi Core 3
1. VDT2120: Analog and Digital signal processing and Communication 2. VDT2121: Linear Integrated circuits	1. VDT2220: System Design using HDL 2. VDT2221: HF & RF circuits	1. VDT3120: CAD for VLSI 2. VDT3121: Microcontroller and applications

Program Electives			
IV	**V**	**VI**	**VII**
Program Elective 1 • VDT2240: Data Structures and Algorithms • VDT2241: Optical components and sensors • VDT2242: FPGA based system design	**Program Elective 2** • VDT3140: AI for circuits • VDT3141: Introduction to Electronic System Packaging • VDT3142: Semiconductor Device Modelling **Program Elective 3** • VDT3143: Design for Testability • VDT3144: Principles of Nanomaterials and Quantum dots • VDT3145: Semiconductor instruments	**Program Elective 4** • VDT3240 : VLSI Physical Design • VDT3241: Introduction to MEMS • VDT3242: VLSI DSP Architectures **Program Elective 5** • VDT3243: Low-Power VLSI Design • VDT3244: Thin Film Transistors • VDT3245: Compound Semiconductors **Program Elective 6** • VDT3246: Embedded Systems • VDT3247: Analog VLSI • VDT3248: Display Technologies	**Program Elective 7** • VDT4140: Mixed Signal IC Design • VDT4141: Semiconductor Memory Design • VDT4142: Static Timing Analysis • VDT4143: EMC and signal integrity **Program Elective 8** • VDT4144: Scripting Language for VLSI • VDT4145: VLSI Interconnects • VDT4146: High speed circuits • VDT4147: Hardware System Engineering

Open Electives

Graded OE	Non-Graded OE
OE1 ECE0001: Introduction to Communication Systems **OE2** ECE0002: Introduction to game theory **OE3** ECE0003: Stress free living (in collaboration with Abhigya Club & faculty from Hare Krishna movement)	**OE1** ECE0051: Excel fundamentals for data analysis **OE2** ECE0052: Introduction to Word Processing