DELHI TECHNOLOGICAL UNIVERSITY

SCHEME OF TEACHING AND EVALUATION

MASTER OF TECHNOLOGY IN VLSI DESIGN & EMBEDDED SYSTEM (VLS)

The following alphanumeric coding scheme has been adopted
Core Courses XXXYMN
Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),
C – credit of the course (4/3/2),
MN – Subject code (Odd number for odd semester and even number for even semester courses

Semester-I

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group A	1	VLS501	Analog IC Design	Core	4	3	0	2	15	25	20	40	-	17
	2	VLS503	Digital CMOS IC Design	Core	4	3	0	2	15	25	20	40	-	
Group B	3	VLS5401/5403/……	Elective 1	Elective	4	3	0	2	15	25	20	40	-	
	4	VLS5301/5303/……	Elective 2	Elective	3	3	0	0	20	-	30	50	-	
	5	VLS5201/5203/…… /UEC5201/5203/……	Elective 3/ University Elective I	Elective	2	2	0	0	20	-	30	50	-	

Semester-II

	S. No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group C	1	VLS502	Embedded System Design	Core	4	3	0	2	15	25	20	40	-	17
	2	VLS504	Low power VLSI Design	Core	4	3	0	2	15	25	20	40	-	

Group D	3	VLS5402/5404/……	Elective 4	Elective	4	3	0	2	15	25	20	40	-	
	4	VLS5302/5304/……	Elective 5	Elective	3	3	0	0	20	-	30	50	-	
	5	VLS5202/5204/……/ UEC5202/5204/……	Elective 6/ University Elective II	Elective	2	2	0	0	20	-	30	50	-	

Semester-III

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
	Track 1													**12**
Group E	1	VLS651	Research Project	Core	12	0		12	0	-	0	100	0	
	Track 2													
	1	VLS601	Major Project I	Core	3						40	60		**12**
	2	VLS6401/6403/……	Elective 7	Elective	4	3	0	2	15	25	20	40	-	
	3	VLS6301/6303/……	Elective 8	Elective	3	3	0	0	20	-	30	50	-	
	4	VLS6201/6203/……	Elective 9	Elective	2	2	0	0	20	-	30	50	-	

Semester-IV

	S.No.	Course Code	Course Name	Type/ Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE	Total Credits
Group F	**Track 1**													
	1	VLS652	Research Project	Core	12	0		12	0	-	0	100	0	**12**
	Track 2													

	1	VLS602	Major Project II	Core	1 2	0		12	0	-	0	100	0	**12**

LIST OF ELECTIVES :														
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 1	1	VLS5401	Digital Design with HDL (Verilog)	Elective	4	3	0	2	15	25	20	40	-
	2	VLS5403	Digital Signal Processing		4	3	0	2	15	25	20	40	-
	3	VLS5405	Soft Computing		4	3	0	2	15	25	20	40	-
	4	VLS5407	IC technology		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 2	1	VLS5301	Device modelling	Elective	3	3	0	0	20	-	30	50	-
	2	VLS5303	Reconfigurable Computing		3	3	0	0	20	-	30	50	-
	3	VLS5305	Hardware software codesign		3	3	0	0	20	-	30	50	-
	4	VLS5307	Organic and Flexible Electronics		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**		**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
	1	VLS5201	SEMINAR		**2**	2	0	0	2	-	100	-	-
Elective 3	2	VLS5203	Micro and Nanoelectronics	Elective	2	2	0	0	20	-	30	50	-
	3	VLS5205	Micro and Nanofabrication		2	2	0	0	20	-	30	50	-
	4	VLS5207	Field Programmable Analog Arrays		2	2	0	0	20	-	30	50	-
	5	VLS5209	Layout Design Skills		2	2	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 4	1	VLS5402	Analog Filter Design	Elective	4	3	0	2	15	25	20	40	-
	2	VLS5404	Internet enabled embedded devices		4	3	0	2	15	25	20	40	-
	3	VLS5406	CAD for VLSI Systems		4	3	0	2	15	25	20	40	-
	4	VLS5408	CMOS RF Circuit Design		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 5	1	VLS5302	MINOR PROJECT	Elective	3	0	0	-	-	40	-	-	60
	2	VLS5304	FPGA based Digital Signal Processing		3	3	0	0	20	-	30	50	-
	3	VLS5306	Testing and Diagnosis of Digital System Design		3	3	0	0	20	-	30	50	-
	4	VLS5308	Memory Design and Testing		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 6	1	VLS5202	CMOS nano neuromorphic circuits	Elective	2	2	0	0	20	-	30	50	-
	2	VLS5204	Real Time Operating Systems		2	2	0	0	20	-	30	50	-
	3	VLS5206	Clock Tree Synthesis		2	2	0	0	20	-	30	50	-
	4	VLS5208	Layout design and skills with analog perspective		2	2	0	0	20	-	30	50	-

	S.No.	Course Code	Course Name	Type/Area	Cr	L	T	P	CWS	PRS	MTE	ETE	PRE
Elective 7	1	VLS6401	Mixed Signal Design	Elective	4	3	0	2	15	25	20	40	-
	2	VLS6403	Embedded Signal Processing		4	3	0	2	15	25	20	40	-
	3	VLS6405	Biomedical Circuits		4	3	0	2	15	25	20	40	-
	4	VLS6407	Fault Tolerant computing		4	3	0	2	15	25	20	40	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 8	1	VLS6301	Speech Processing	Elective	3	3	0	0	20	-	30	50	-
	2	VLS6303	Embedded Automotive systems		3	3	0	0	20	-	30	50	-
	3	VLS6305	Machine Learning		3	3	0	0	20	-	30	50	-
	4	VLS6307	Advanced Computer Architecture		3	3	0	0	20	-	30	50	-
	5	VLS6309	Embedded Software		3	3	0	0	20	-	30	50	-
	6	VLS6311	Phase Locked Loop Design		3	3	0	0	20	-	30	50	-
	S.No.	**Course Code**	**Course Name**	**Type/Area**	**Cr**	**L**	**T**	**P**	**CWS**	**PRS**	**MTE**	**ETE**	**PRE**
Elective 9	1	VLS6201	VLSI signal processing architecture	Elective	2	2	0	0	20	-	30	50	-
	2	VLS6203	FPGA based soft computing		2	2	0	0	20	-	30	50	-
	3	VLS6205	Selected topics in embedded systems		2	2	0	0	20	-	30	50	-
	4	VLS6207	Selected topics in VLSI		2	2	0	0	20	-	30	50	-