



VidyaJyothi Institute of Technology

(An Autonomous Institution)

(Accredited by NAAC, Approved by AICTE New Delhi & Permanently Affiliated to JNTUH)

Aziznagar Gate, C.B. Post, Hyderabad-500 075

Department of Electronics and Communication Engineering

COURSE STRUCTURE FOR M.TECH (Embedded Systems) R19

I Semester

S.No.	Category	Course Title	Int. marks	Ext. marks	L	T	P	C
1	19D4E21101	Embedded System Design	30	70	4	0	0	4
2	19D4CS1104	Microcontrollers for Embedded System Design	30	70	4	0	0	4
3	19D4CS1105	Embedded Real Time Operating Systems	30	70	4	0	0	4
4	19D4CS1101 19D4E21102 19D4E11104	VLSI Technology Advanced Computer Architecture Embedded Computing	30	70	3	0	0	3
5	19D4E11101 19D4E11102 19D4E21104	Advanced Digital System Design Hardware Software Co-Design Soft Computing Techniques	30	70	3	0	0	3
6	191EOE1101	Internet of Things	30	70	3	0	0	3
7	19D4LB1102	Embedded Systems Laboratory	30	70	0	0	3	2
8	19D4SM1101	Seminar	100	0	0	0	3	2
Total			310	490	21	0	6	25

II Semester

S.No.	Category	Course Title	Int. marks	Ext. marks	L	T	P	C
1	19D4CS1204	Embedded Networking	30	70	4	0	0	4
2	19D4E41202	System On Chip Architecture	30	70	4	0	0	4
3	19D4CS1205	Sensors and Actuators	30	70	4	0	0	4
4	19D4E31204 19D4E31202 19D4E31205	Digital Signal Processors & Architectures Scripting Languages Wireless Communication and Networks	30	70	3	0	0	3
5	19D4CS1203 19D4E41204 19D4E41205	Design for Testability Multimedia and Signal Coding CPLD & FPGA Arch. & Applications	30	70	3	0	0	3
6	191EOE1201	Artificial Intelligence & Machine Learning	30	70	3	0	0	3
7	19D4LB1202	Advanced Embedded Systems Laboratory	30	70	0	0	3	2
8	19D4SM1201	Seminar	100	0	0	0	3	2
Total			310	490	21	0	6	25

L: Lecture

T: Tutorial

P: Practical

III Semester

S.No.		Course Title	Int. marks	Ext. marks	L	T	P	C
1	19DDCS1207	Technical Paper Writing	100	0	0	3	0	2
2	19D4CV2102	Comprehensive Viva-Voce	0	100	0	0	0	4
3	19D4PW2101	Project work Review II	100	0	0	0	22	8
		Total	200	100	0	3	22	14

IV Semester

S.No.		Course Title	Int. marks	Ext. marks	L	T	P	C
1	19D4PW2202	Project work Review III	100	0	0	0	24	8
2	19D4PW2201	Project Evaluation (Viva-Voce)	0	100	0	0	0	16
		Total	100	100	0	0	24	24

*Open Elective subjects must be chosen from the list of open electives offered by OTHER departments.

L: Lecture

T: Tutorial

P: Practical

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M.Tech R15 Regulations

M.TECH. - EMBEDDED SYSTEM DESIGN (Course Structure)

I Year – I Semester

Subject Code	Category	Course Title	Int. marks	Ext. marks	L	P	C
15D4CS1101	Core Course I	Embedded System Design	40	60	4	--	4
15D4CS1102	Core Course II	ARM Architectures	40	60	4	--	4
15D4CS1103	Core Course III	Real Time Operating Systems	40	60	4	--	4
15D4E11101 15D4E11102 15D4E11103	Core Elective I	Advanced Computer Architecture VLSI Technology and Design Embedded Computing	40	60	4	--	4
15D4E21101 15D4E21102 15D4E21103	Core Elective II	Digital System Design Embedded C Design for Testability	40	60	4	--	4
15D4OE1101 15D4OE1102 15D4OE1103	Open Elective I	TCP/IP Networks Coding Theory and Techniques Soft Computing Techniques	40	60	4	--	4
15D4LB1101	Laboratory I	Embedded Systems Laboratory	40	60	--	4	2
15D4SM1101	Seminar I	Seminar	50	--	--	4	2
Total Credits					24	8	28

I Year – II Semester

Subject Code	Category	Course Title	Int. marks	Ext. marks	L	P	C
15D4CS1204	Core Course IV	Digital Signal Processors and Architectures	40	60	4	--	4
15D4CS1205	Core Course V	Embedded Networking	40	60	4	--	4
15D4CS1206	Core Course VI	Sensors and Actuators	40	60	4	--	4
15D4E31201 15D4E31202 15D4E31203	Core Elective III	CPLD and FPGA Architectures and Applications Wireless Communication and Networks System On Chip Architecture	40	60	4	--	4
15D4E41201 15D4E41202 15D4E41203	Core Elective IV	Multimedia and Signal Coding Network Security and Cryptography Hardware Software Co-Design	40	60	4	--	4
15D4OE1201 15D4OE1202 15D4OE1203	Open Elective II	Scripting languages Adhoc Wireless and Sensor Networks Device Modeling	40	60	4	--	4
15D4LB1201	Laboratory II	Advanced Embedded Systems Laboratory	40	60	--	4	2
15D4SM1201	Seminar II	Seminar	50	--	--	4	2
Total Credits					24	8	28

II Year - I Semester

Subject Code	Course Title	Int. marks	Ext. marks	L	P	C
15D4CV2101	Comprehensive Viva-Voce	--	100	--	--	4
15D4PW2101	Project work Review I	50	--	--	24	12
Total Credits					24	16

II Year - II Semester

Subject Code	Course Title	Int. marks	Ext. marks	L	P	C
15D4PW2202	Project work Review II	50	--	--	8	4
15D4PE2201	Project Evaluation (Viva-Voce)	--	150	--	16	12
	Total Credits			--	24	16



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

(Established by an Act No.30 of 2008 of A.P. State Legislature)

Kukatpally, Hyderabad – 500 085, Andhra Pradesh (India)

M.TECH. (EMBEDDED SYSTEMS)

COURSE STRUCTURE AND SYLLABUS

I Year - I Semester

Code	Group	Subject	L	P	Credits
		Embedded System Design	3	0	3
		Microcontrollers for Embedded System Design	3	0	3
		Embedded Real Time Operating Systems	3	0	3
		Embedded C	3	0	3
	Elective -I	Advanced Computer Architecture VLSI Technology and Design Embedded Computing	3	0	3
	Elective -II	Digital System Design Soft Computing Techniques Advanced Operating Systems	3	0	3
	Lab	Embedded C Laboratory	0	3	2
		Seminar	-	-	2
		Total Credits	18	3	22

I Year - II Semester

Code	Group	Subject	L	P	Credits
		Hardware Software Co-Design	3	0	3
		Digital Signal Processors and Architectures	3	0	3
		Embedded Networking	3	0	3
		CPLD and FPGA Architectures and Applications	3	0	3
	Elective - III	Sensors and Actuators Wireless Communications and Networks Network Security and Cryptography	3	0	3
	Elective – IV	Multimedia and Signal Coding System On Chip Architecture Wireless LANs and PANs	3	0	3
	Lab	Embedded Systems Laboratory	0	3	2
		Seminar	-	-	2
		Total Credits	18	3	22

II Year - I Semester

Code	Group	Subject	L	P	Credits
		Comprehensive Viva	-	-	2
		Project Seminar	0	3	2
		Project work	-	-	18
		Total Credits	-	3	22

II Year - II Semester

Code	Group	Subject	L	P	Credits
		Project work and Seminar	-	-	22
		Total Credits	-	-	22