

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH. IN EMBEDDED SYSTEMS & VLSI DESIGN/ VLSI & EMBEDDED SYSTEMS
EFFECTIVE FROM ACADEMIC YEAR 2022-23 ADMITTED BATCH

R22 COURSE STRUCTURE AND SYLLABUS

I YEAR I – SEMESTER

Course Code	Course Title	L	T	P	Credits
Professional Core - I	Digital System Design with FPGAs	3	0	0	3
Professional Core - II	ARM Microcontrollers	3	0	0	3
Professional Elective - I	1. Pattern Recognition and Machine Learning 2. Embedded Sensors 3. Memory Technologies	3	0	0	3
Professional Elective - II	1. Embedded Real Time Operating Systems 2. Advanced Computer Architecture 3. Communication Buses & Interface	3	0	0	3
Lab - I	Digital System Design with FPGAs Lab	0	0	4	2
Lab - II	ARM Microcontrollers Lab	0	0	4	2
	Research Methodology & IPR	2	0	0	2
Audit - I	Audit Course – I	2	0	0	0
	Total	16	0	8	18

I YEAR II – SEMESTER

Course Code	Course Title	L	T	P	Credits
Professional Core - III	CMOS Analog IC Design	3	0	0	3
Professional Core - IV	System Design with Embedded Linux	3	0	0	3
Professional Elective - III	1. IoT Architectures and System Design 2. SOC Design 3. Design For Testability	3	0	0	3
Professional Elective - IV	1. Device Modelling 2. Secure Networks 3. Physical Design Automation	3	0	0	3
Lab - III	CMOS Analog ICP Design Lab	0	0	4	2
Lab - IV	System Design with Embedded Linux Lab	0	0	4	2
	Mini Project with Seminar	0	0	4	2
Audit - II	Audit Course- II	2	0	0	0
	Total	14	0	1	18

II YEAR I – SEMESTER

Course Code	Course Title	L	T	P	Credits
Professional Elective - V	1. CMOS Mixed Signal Design 2. Embedded Networks 3. Nano Materials and Nano Technology	3	0	0	3
Open Elective	Open Elective	3	0	0	3
Dissertation	Dissertation Work Review – II	0	0	12	6
	Total	6	0	12	12

II YEAR II - SEMESTER

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	12	06
Dissertation	Dissertation Viva-Voce	0	0	28	14
	Total	0	0	40	20

Open Electives:

1. Business Analytics
2. Industrial Safety
3. Operations Research
4. Cost Management of Engineering Projects
5. Composite Materials

Audit Course I & II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development Through Life Enlightenment Skills