

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH. IN MICROWAVE AND RADAR ENGINEERING
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	Microwave Circuits and Systems	3	0	0	3
Professional Core - II	Radar Systems Engineering	3	0	0	3
Professional Elective - I	1. Advanced Electromagnetic Engineering 2. Microwave Measurements 3. Computational Techniques for Microwaves	3	0	0	3
Professional Elective - II	1. Microwave Semiconductor Devices 2. Software and cognitive radio systems 3. Optical Communications and Networks	3	0	0	3
Lab - I	Microwave Circuits and Systems Lab	0	0	4	2
Lab - II	Simulation 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	Microwave Antennas	3	0	0	3
Professional Core - IV	Advanced Communications and Networks	3	0	0	3
Professional Elective - III	1. Satellite Radio Navigation 2. Phased Array Radar 3. RF Receiver Design	3	0	0	3
Professional Elective - IV	1. Radar Signal processing 2. Electromagnetic Interference and Compatibility 3. ARM Controllers	3	0	0	3
Lab - III	Microwave Antenna Simulation Lab	0	0	4	2
Lab - IV	Advanced Communications and Networks 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	12	18

II YEAR I - SEMESTER

Course Code	Course Title	L	T	P	Credits
Professional Elective - V	1. RF MEMS 2. 5G and Beyond Communications 3. Microwave Imagings	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