

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH. (ENGINEERING DESIGN)
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	Advanced Mechanics of Solids	3	0	0	3
Professional Core - II	Advanced Machine Design	3	0	0	3
Professional Elective - I	1. Advanced Mechanics of Machinery 2. Computer Aided Geometric Design 3. Mechanical Vibrations	3	0	0	3
Professional Elective - II	1. Mechanical Behavior of Materials 2. Optimization Techniques & Applications 3. Experimental Stress Analysis	3	0	0	3
	Research Methodology & IPR	2	0	0	2
Lab - I	Advanced Dynamics Lab	0	0	4	2
Lab - II	Advanced Modeling Lab	0	0	4	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	System Design & Analysis	3	0	0	3
Professional Core - IV	Advanced Finite Element and Boundary Element Methods	3	0	0	3
Professional Elective - III	1. Mechanics Of Composite Materials 2. Design & Manufacturing Assembly 3. Industrial Robotics	3	0	0	3
Professional Elective - IV	1. Hydraulic and Pneumatic Systems 2. Mechatronics 3. Reliability Engineering	3	0	0	3
	Mini Project with Seminar	0	0	4	2
Lab - III	Advanced Computer Aided Modelling and analysis Lab	0	0	4	2
Lab - IV	Product Development Lab	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. IoT & Industrial 4.0 2. Concurrent Engineering 3. Re- Engineering	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	6
Dissertation	Dissertation Viva-Voce	0	0	28	14
	Total	0	0	40	20

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