M.TECH (WORKING PROFESSIONAL)

MECHANICAL ENGINEERING

SCHEME OF STUDIES

Semester-wise Course Structure

Semester I

Course Code	Course Title	Type	Periods	Credits
PWME-101	Advanced Manufacturing Processes	Theory	4	4
PWRM-102	Research Methodology & IPR	Theory	4	4
PWME-103	Advanced Manufacturing Processes Lab	Practical	4	2
PWME-104	CAD/CAM Lab	Practical	4	2
PWME- 105	Technical Seminar I (Literature Review)	Seminar	4	2
PWME-106	Mini Project I (Problem Identification)	Project	4	2
PWME-10X	Elective I	Elective	4	4
TOTAL	**Theory: 12 | Practical/Project: 16**		28	**20**

Semester II

Course Code	Course Title	Type		Credits
PWME-201	Finite Element Analysis	Theory	4	4
PWME-202	Computational Methods in Mech Engg	Theory	4	4
PWME-203	FEA Lab (ANSYS / ABAQUS)	Practical	4	2
PWME-204	Fluid & Thermal Lab	Practical	4	2
PWME-205	Technical Seminar II (State-of-the-Art Review)	Seminar	4	2
PWME-206	Mini Project II (Design & Simulation)	Project	8	4
PWME-20X	Elective II	Elective	4	4

TOTAL	**Theory: 12 | Practical/Project: 18**		32	**22**

Semester III

Course Code	Course Title	Type		Credits
PWME-301	Advanced Materials Science & Engineering	Theory	4	4
PWME-302	Advanced Materials Lab	Practical	4	2
PWME-303	Industry Internship	Practical	8	4
PWME-304	Seminar III (Thesis Proposal Presentation)	Seminar	4	2
PWME-305	Pre Thesis / Dissertation	Thesis	8	4
PWME-30X	Elective III	Elective	4	4
TOTAL	**Theory: 8 | Practical/Project: 24**		32	**20 Credits**

Semester IV

Course Code	Course Title	Type		Credits
PWME-401	Thesis / Dissertation	Thesis	24	12
PWME-402	Seminar IV (Final Presentation)	Seminar	16	8
	Theory: 0 | Practical/Project: 40		40	**20**

4. List of Elective Courses

Elective		Course Title	Domain	Offered In
I	PWME-108	Industrial Automation & PLC Programming	Manufacturing / Mechatronics	Sem I
I	PWME-109	Tribology & Bearing Design	Design Engineering	Sem I
I	PWME-110	Advanced Welding Technology	Manufacturing	Sem I
II	PWME-208	Additive Manufacturing & 3D Printing	Modern Manufacturing	Sem II

II	PWME-209	Mechatronics & Embedded Systems	Automation	Sem II
II	PWME-210	Renewable Energy Systems	Thermal / Energy	Sem II
III	PWME-307	Computational Fluid Dynamics (CFD)	Thermal / Fluid	Sem III
III	PWME-308	Robotics & Machine Vision	Automation	Sem III
III	PWME-309	Industry 4.0 & Digital Manufacturing	Modern Industry	Sem III
		Sustainable & Green Engineering	Environment	
		Smart Manufacturing & IoT in Industry	Industry 4.0	
		Advanced Dynamics & Vibration Control	Design	