

M. Tech. in Chemical Engineering

Semester-I (PG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	AMT-811	Statistics and Numerical Methods		3	1	0	4	3.5
2	CHT-811	Transport Phenomena		3	1	0	4	3.5
3	CHT-812	Catalytic Reaction Engineering		3	1	0	4	3.5
4	CHT-813	Fluid Mechanics		3	1	0	4	3.5
5	CHT-814	Elective I		3	1	0	4	3.5
6	CHP-811	Catalytic Reaction Engineering Lab		0	0	2	2	1
7	CHP-812	Fluid Mechanics Lab		0	0	2	2	1
		Total		15	5	4	24	19.5

Semester-II A (PG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	CHT-821	Multicomponent Mass Transfer		3	1	0	4	3.5
2	CHT-822	Heat Transfer		3	1	0	4	3.5
3	CHT-823	Chemical Engineering Thermodynamics		3	1	0	4	3.5
4	CHT-824	Process Dynamics and Control		3	1	0	4	3.5
5	CHT-825	Elective II		3	1	0	4	3.5
6	CHP-821	Multicomponent Mass Transfer Lab		0	0	2	2	1
7	CHP-822	Seminar		0	0	2	2	1
		Total		15	5	4	24	19.5

Semester-II B (PG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
		Four Weeks Training in reputed Industry/Laboratory in institution of repute such IITs, NITs, CSIR, DRDO, CSIO etc.						160 S/US
		Semester-III (PG)						
1	CHT-911	Process Modelling and Simulation		3	1	0	4	3.5
2	CHT-912	Elective III		3	1	0	4	3.5
3	CHP-911	Dissertation (Part I)		0	0	16	16	8

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	Total	6	2	16	24	15
Semester-IV (PG)						
1	CHP-921	Dissertation (Part II)	0	0	24	12
	Total	0	0	24	24	12

List of Electives

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
Elective I							
1	CHT-814A	Polymer Technology	3	1	0	4	3.5
2	CHT-814B	Advances in Paper Technology	3	1	0	4	3.5
3	CHT-814C	Environmental Engineering	3	1	0	4	3.5

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
Elective II							
1	CHT-825A	Advanced Polymer Material Technology	3	1	0	4	3.5
2	CHT-825B	Bioresource Technology	3	1	0	4	3.5
3	CHT-825C	Air Pollution Control Engineering	3	1	0	4	3.5

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
Elective III							
1	CHT-912A	Polymer Composites and Blends	3	1	0	4	3.5
2	CHT-912B	Alternate Energy Sources	3	1	0	4	3.5
3	CHT-912C	Biochemical Engineering	3	1	0	4	3.5
4	CHT-912D	Paper Machine Operations	3	1	0	4	3.5

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M. Tech. (ChE)

Programme Educational Objectives

1. Prepare students who can take up professional assignments in basic and applied research in chemical engineering industry and academic area.
2. To equip the students with ability in advanced conceptual understanding in solving real time problems with special emphasis on process integration, energy efficiency and cleaner production.
3. To equip the students with technical knowhow for economic and social development of rural and urban India.

Programme Objectives

1. Scholarship of Knowledge

Acquire in-depth knowledge of specific discipline or professional area, including wider and global perspective, with an ability to discriminate, evaluate, analyse and synthesise existing and new knowledge, and integration of the same for enhancement of knowledge.

2. Critical Thinking

Analyse complex engineering problems critically, apply independent judgement for synthesising information to make intellectual and/or creative advances for conducting research in a wider theoretical, practical and policy context.

3. Problem Solving

Think laterally and originally, conceptualise and solve engineering problems, evaluate a wide range of potential solutions for those problems and arrive at feasible, optimal solutions after considering public health and safety, cultural, societal and environmental factors in the core areas of expertise.

4. Research Skill

Extract information pertinent to unfamiliar problems through literature survey and experiments, apply appropriate research methodologies, techniques and tools, design, conduct experiments, analyse and interpret data, demonstrate higher order skill and view things in a broader perspective, contribute individually/in group(s) to the development of scientific/technological knowledge in one or more domains of engineering.

5. Usage of modern tools

Create, select, learn and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities with an understanding of the limitations.

6. Collaborative and Multidisciplinary work

Possess knowledge and understanding of group dynamics, recognise opportunities and

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contribute positively to collaborative-multidisciplinary scientific research, demonstrate a capacity for self-management and teamwork, decision-making based on open-mindedness, objectivity and rational analysis in order to achieve common goals and further the learning of themselves as well as others.

7. Project Management and Finance

Demonstrate knowledge and understanding of engineering and management principles and apply the same to one's own work, as a member and leader in a team, manage projects efficiently in respective disciplines and multidisciplinary environments after consideration of economical and financial factors.

8. Communication

Communicate with the engineering community, and with society at large, regarding complex engineering activities confidently and effectively, such as, being able to comprehend and write effective reports and design documentation by adhering to appropriate standards, make effective presentations, and give and receive clear instructions.

9. Life-long Learning

Recognise the need for, and have the preparation and ability to engage in life-long learning independently, with a high level of enthusiasm and commitment to improve knowledge and competence continuously.

10. Ethical Practices and Social Responsibility

Acquire professional and intellectual integrity, professional code of conduct, ethics of research and scholarship, consideration of the impact of research outcomes on professional practices and an understanding of responsibility to contribute to the community for sustainable development of society.

11. Independent and Reflective Learning

Observe and examine critically the outcomes of one's actions and make corrective measures subsequently, and learn from mistakes without depending on external feedback.

Program Specific outcome

12. Ability to apply advanced chemical engineering knowhow for inception and development of process for the future utilization of renewable resources

Handwritten signatures and notes:
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