

# **M. Tech. in Corrosion Technology**

## **Semester I**

Sl.No	Course Code	Course	Contact hours/week		Total Credits (*)
			L	T/P	
1	MCE 601	Concepts in Materials	3	1	4
2	MCE 602	Introduction to Corrosion	3	1	4
3	MCE 603	Welding Science and Technology	3	1	4
4	MCE 604	Corrosion Characterization	3	1	4
5	MCE 605	High temperature Corrosion	3	1	4
6	AM 607	Mathematics for Engineers	3	1	4
Total			18	6	24

**Note:** 04 weeks Practice school during summer vacation for scholarship students.

## **Semester II**

Sl.No	Course Code	Course Name	Contact hours/week		Credits
			L	T/P	
1	MS 606	Fatigue, Fracture and Failure analysis	3	1	4
2	MCE 606	Corrosion Prevention and Control	3	1	4
3		Elective – I (from Department Electives)	3	1	4
4		Elective – II (from Department Electives)	3	1	4
5		Elective – III (from open Electives)	3	1	4
6		Elective – IV (from open Electives)	3	1	4
Total			18	6	24

### Semester III

Sl.No	Course Code	Course Name	Contact hours/week		Credits
			L	T/P	
1		Elective V (from MOOC/NPTL courses)	3	0	3
2		Elective VI ( from MOOC/NPTL courses )	3	0	3
	MS 631	M.Tech Dissertation Phase I			10
Total					16

### Semester IV

Sl.No	Course Code	Course Name	Contact hours/week		Credits
			L	T/P	
1	MS 631	M.Tech Dissertation Phase – II			14
Total					14

\* 1 Credit in Theory/Tutorial means 1 contact hour and 1 credit in practical/Project Thesis means 2 contact hours in a week

### List of Electives

	Course code	Name of the course
<b>Electives (I,II) from the Department</b>		
1	MS 606	Advanced Physical and Mechanical Metallurgy
2	MS 607	Design of Materials
3	MS 606	Fatigue and Fracture, and Failure Analysis
4	MS 610	Materials for high temperature applications
4	MS 612	Non-destructive Evaluations (NDT)
5	MS 615	Heat treatment
6	MCE 607	Advanced Coating
7	MCE 608	Surface Science and Engineering
8	MCE 609	Materials for defence applications
9	MS 619	Processing of Defence Components
10	MCE610	Reliability Engineering
<b>Electives (III,IV) from other Departments</b>		
11	ME602	Advanced Mechanics of Materials
12	ME603	Advanced Fluid and Thermal Science

13	ME604	Advanced Materials and Processing
14	ME607	Computational Fluid Dynamics
15	ME608	Finite Element Methods
16	AP 610	Nanotechnology
17	AP614	Sensors and Actuators
18	AM621	Advanced Modelling Techniques
19	EE601	Microwave Engineering

### **MOOC Courses**

S.No	Course Name
1	Materials data science and informatics
2	Nanotechnology and nano sensors - Part-1
3	Nanotechnology and nano sensors - Part-2
4	Introduction to High-Throughput Materials
5	Metals and Metalloids of the main groups: Basis and their role in the daily life
6	Introduction to solid state chemistry
7	Sustainable energy
<b>NPTL Courses</b>	
8	Industrial Engineering
9	Advanced Strength of Materials
10	Marine Construction and Welding
11	Strength and Vibration of Marine structures
12	Materials and Energy Balance
13	Process Control and Instrumentation
14	Mathematical Logic
15	Mathematical Methods Engineering and Science
16	Introduction to Crystallography Texture
11	Research Methodology