

**GOVERNMENT POLYTECHNIC JAIPUR**  
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DEPARTMENT OF METALLURGY

Discipline: Metallurgy	Semester: 6TH	Name of the Teaching faculty: P ARADHANA
Subject: corrosion Engg.	No of Days/Week class allotted: 4	Semester from Date: 12/12/24 To Date: 14/4/25 No of weeks: 17
Week	Class Day	Topics
1st	1 <sup>st</sup>	Introduction to Corrosion
	2 <sup>nd</sup>	cost of corrosion, direct and indirect losses
	3 <sup>rd</sup>	cost of corrosion, direct and indirect losses
	4 <sup>th</sup>	importance of corrosion studies
2nd	1 <sup>st</sup>	different types of corrosion
	2 <sup>nd</sup>	electrochemical corrosion
	3 <sup>rd</sup>	chemical corrosion.
	4 <sup>th</sup>	corrosion rate
3rd	1 <sup>st</sup>	Corrosion principles
	2 <sup>nd</sup>	electrochemical principle of corrosion
	3 <sup>rd</sup>	Faraday's law and its causes and its deviation
	4 <sup>th</sup>	Faraday's law and its causes and its deviation
4th	1 <sup>st</sup>	electrochemical cells
	2 <sup>nd</sup>	concentration cell
	3 <sup>rd</sup>	electrolytic cell
	4 <sup>th</sup>	Electrode potentia
5th	1 <sup>st</sup>	electromotive force
	2 <sup>nd</sup>	galvanic series
	3 <sup>rd</sup>	galvanic series and their application with reference to corrosion and protection
	4 <sup>th</sup>	galvanic series and their application with reference to corrosion and protection
6th	1 <sup>st</sup>	Different forms of corrosion
	2 <sup>nd</sup>	Atmospheric corrosion
	3 <sup>rd</sup>	Atmospheric corrosion & prevention
	4 <sup>th</sup>	Intergranular corrosion
7th	1 <sup>st</sup>	Intergranular corrosion
	2 <sup>nd</sup>	Intergranular corrosion & prevention
	3 <sup>rd</sup>	Pitting corrosion
	4 <sup>th</sup>	Pitting corrosion & prevention
8th	1 <sup>st</sup>	Corrosion fatigue
	2 <sup>nd</sup>	Corrosion fatigue & prevention
	3 <sup>rd</sup>	Galvanic corrosion
	4 <sup>th</sup>	Galvanic corrosion & prevention
9th	1 <sup>st</sup>	Pitting corrosion
	2 <sup>nd</sup>	Stress corrosion
	3 <sup>rd</sup>	Stress corrosion/cracking

	4 <sup>th</sup>	Stress corrosion/cracking & prevention
10 <sup>th</sup>	1 <sup>st</sup>	Cavitation corrosion
	2 <sup>nd</sup>	Cavitation corrosion
	3 <sup>rd</sup>	Cavitation corrosion & prevention
	4 <sup>th</sup>	Fretting corrosion
11 <sup>th</sup>	1 <sup>st</sup>	Fretting corrosion
	2 <sup>nd</sup>	Fretting corrosion & prevention
	3 <sup>rd</sup>	High temperature oxidation corrosion
	4 <sup>th</sup>	High temperature oxidation corrosion
12 <sup>th</sup>	1 <sup>st</sup>	High temperature oxidation corrosion & prevention
	2 <sup>nd</sup>	Stray current corrosion
	3 <sup>rd</sup>	Stray current corrosion & prevention
	4 <sup>th</sup>	Corrosion Prevention
13 <sup>th</sup>	1 <sup>st</sup>	Physical characteristic of protective coating
	2 <sup>nd</sup>	Mechanical characteristic of protective coating
	3 <sup>rd</sup>	Chemical characteristic of protective coating
	4 <sup>th</sup>	corrosion prevention by inhibition
14 <sup>th</sup>	1 <sup>st</sup>	corrosion prevention by inhibition
	2 <sup>nd</sup>	corrosion prevention by inhibition
	3 <sup>rd</sup>	corrosion prevention by passivation
	4 <sup>th</sup>	corrosion prevention by passivation
15 <sup>th</sup>	1 <sup>st</sup>	corrosion prevention by passivation
	2 <sup>nd</sup>	corrosion prevention control of environment
	3 <sup>rd</sup>	corrosion prevention control of environment
	4 <sup>th</sup>	corrosion prevention control of environment
16 <sup>th</sup>	1 <sup>st</sup>	Cathodic protection
	2 <sup>nd</sup>	Cathodic protection
	3 <sup>rd</sup>	Cathodic protection
	4 <sup>th</sup>	Anodic protection
17 <sup>th</sup>	1 <sup>st</sup>	Anodic protection
	2 <sup>nd</sup>	Anodic protection
	3 <sup>rd</sup>	Revision
	4 <sup>th</sup>	Revision

*P. Madhau*  
 22/12/25  
 Lect Metallurgy