



DEPARTMENT OF CHEMISTRY

COURSE PLAN – PART I			
Name of the programme and specialization	B. Tech. (Civil A)		
Course Title	Chemistry (Lab)		
Course Code	CHIR12	No. of Credits	2
Course Code of Pre-requisite subject(s)	Nil		
Session	July 2020 (Delayed)	Section (if, applicable)	A
Name of Faculty	Dr. Sarthak Mandal	Department	Chemistry
Official Email	smandal@nitt.edu	Telephone No.	+91-8158805377 (M)
Name of Course Coordinator(s) (if, applicable)	Dr. Sarthak Mandal		
Official E-mail	smandal@nitt.edu	Telephone No.	+91-8158805377 (M)
Course Type (please tick appropriately)	<input checked="" type="checkbox"/> Core course	<input type="checkbox"/> Elective course	
Syllabus (approved in BoS)			
Practicals: <ol style="list-style-type: none">1. Estimation of carbonate, non-carbonate and total hardness in the given water sample.2. Estimation of dissolved oxygen in the given water sample.3. Corrosion rate by polarization technique4. Determination of molecular weight of the polymer by Viscometry.5. Estimation of Fe^{3+} by spectrophotometer6. Demonstration of experiments using Advanced Spectroscopic Techniques7. Conductometric titration8. Potentiometric titration9. pH-metric titration			
Reference and Text Books <ol style="list-style-type: none">1. S. Rattan, <i>Theory and Practicals of Engineering Chemistry</i> Kataria, S. K., & Sons, New Delhi, 2013.2. Practical Manual Provided by the Chemistry Department of NIT Tiruchirappalli.			
COURSE OBJECTIVES			



The chemistry laboratory course will consist of virtual simulated experiments and video demonstrations illustrating the principles of chemistry relevant to the course. The students will learn how to estimate various components from the corresponding bulk mixture.

MAPPING OF COs with POs

Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
Students will learn about the:	
Analysis of Water Samples	
Analysis of the Purity of Metal Samples	
Different titration methods for quantitative analysis	
Determination of purity of common chemicals	
Determination of polymer molecular weight	

COURSE PLAN – PART II

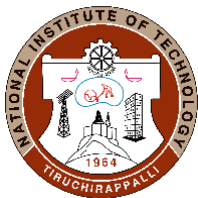
COURSE OVERVIEW

This is a two credit course offered to I year B.Tech. Civil A Students. This course is a Practical Chemistry (2 credit) course. Four Practical classes will be conducted virtually per week. This course provides a thorough understanding of the subject through video demonstrations and simulated experiments.

COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
	II Week of January	Introduction to the course	MS TEAM
1	III week of January	Estimation of carbonate, non-carbonate and total hardness in the given water sample.	MS TEAM (Virtual Experiment)
2	IV week of January	Estimation of dissolved oxygen in the given water sample.	MS TEAM (Virtual Experiment)



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3	I week of February	Determination of molecular weight of the polymer by Viscometry	MS TEAM (Virtual Experiment)
4	II week of February	Estimation of Fe ³⁺ by spectrophotometer	MS TEAM (Virtual Experiment)
5	III week of February	Corrosion rate by polarization technique	MS TEAM (Virtual Experiment)
6	IV week of February	Demonstration of Advanced Spectroscopic Techniques (UV-vis absorption spectroscopy)	MS TEAM (Virtual Experiment)
7	I week of March	Demonstration of experiments using Advanced Spectroscopic Techniques (IR Spectroscopy)	MS TEAM (Virtual Experiment)

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
Practicals				
1	Assessment I (Based on Regular Performances)	Throughout the Semester	3 hours/Week	50
2	Assessment II (Viva)	IV week of February	30 minutes	20
4	Final Assessment *	II week of March	3 hours	30

Total (100 Marks)

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

1. Feedback from students during class committee meetings
2. Anonymous feedback through questionnaire at the end of the semester.

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

E-mail: smandal@nitt.edu / Phone: +91-8158805377

COMPENSATION ASSESSMENT POLICY



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2019	2018	2017	2016	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) lower	(Class) whichever is	40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.