



A TECHNICAL REPORT ON PEDAGOGY IMPLEMENTED

SIMULATION LAB

ENGINEERING CHEMISTRTY

COMPLEXOMETRIC METHOD OF TITRATION

2020-2021/I SEM, BRANCH: DS & MECH

DATE OF EXECUTION: 04/01/2022

CSM & CSO

AY: 2021-2022

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INTRODUCTION ON PEDAGOGY:

Simulation lab refers to a virtual teaching and learning environment aimed at developing students' laboratory skills. As one of the most important eLearning tools, they allow the student to conduct various experiments without any constraints to place or time, in contrast to the constraints of real labs. They also offer students access to a realistic lab experience that will allow them to perform experiments and practice their skills in a risk-free and interactive learning environment. Simulations offer students an opportunity to explore a different reality from a remote location.

IMPLEMENTATION:

- This activity is implemented after teaching the theory of the topic through PPT mode and demonstrating the simulation lab in the virtual class.
- Students are shared with the simulation lab link through WhatsApp, where students perform the experiment in the class during my presence with three different parameters by turning on their videos, the readings of the analysis are noted and send as an assignment after doing the calculation.

LINK OF THE SIMULATION LAB

- http://icv-au.vlabs.ac.in/inorganic-chemistry/Water_Analysis_Determination_of_Chemical_Parameters/experiment.html

PROOFS:

1. Simulation Lab Explanation in Virtual Class

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OUTCOME:

Students are able to relate the theoretical concept of the topic with the virtual experimental analysis.

E-RESOURCES/Textbooks Referred:

Links:

- http://vlabs.iitb.ac.in/vlabs-dev/labs/nitk_labs/Environmental_Engineering_1/experiments/determination-of-hardness-nitk/
- https://web.iitd.ac.in/~arunku/files/CEL212_Y13/Lab%205%20Hardness.pdf

Text books:

A textbook of Engineering Chemistry by Dr.Bharathi Kumari Yalamanchali

A textbook of Engineering Chemistry by Dr.Jayashree

ICT USAGE:

Video links have been sent to the students through whatz app to watch them at home before the day of the demonstration

Students have performed the experiment through the below link and submitted the result as a proof

Link of the Simulation lab

- http://icv-au.vlabs.ac.in/inorganic-chemistry/Water_Analysis_Determination_of_Chemical_Parameters/experiment.html

CONTENTS BEYOND THE SYLLABUS:

No contents were covered that are beyond the syllabus

RUBRICS:

Components	Excellent	Very Good	Good
Simulation lab performance (3M)	Could open the link and perform the analysis well (3M)	Could open the link but couldn't perform the analysis well (2M)	Couldn't open the link and haven't performed the analysis (1M)
Readings, Calculation & Result (2M)	Have noted down the readings and submitted the calculation (2M)	Have noted down the readings but couldn't do the calculation (1M)	Couldn't note the readings and not submitted the assignment (0M)

TIME TAKEN TO COMPLETE THE ACTIVITY:

2 hrs.

SUGGESTIONS GIVEN TO SLOW LEARNER: The concept was explained again and he/she is asked to study the topic and perform the simulation lab and submit the report again.

CHALLENGES:

1. The issue with the connectivity for the students to open the link from the given site
2. Time to finish the activity was a challenge as students should perform and submit their calculations in the WhatsApp.
3. Copying of the reports.

NO. OF STUDENTS PARTICIPATED: 62 (CSO) & 65 (CSM)

STUDENT FEEDBACK:

1. Activity was interesting as it is happened beyond the four walls of the classroom.
2. Could understand the topic well with hands-on experience through simulation mode.
3. Could relate to the theory properly to practical.



Submitted by

HOD

Principal

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