

## LESSON PLAN

### GOVT. POLYTECHNIC, SONEPUR

Name of the Faculty: Sulagna Das, Sr. Lect.(Chemistry) Basudev Naik, Lab Asst., Chemistry	Academic Year: 2025-26 Dt. 09.01.2026
Course No.: PR.5	Course Name: APPLIED CHEMISTRY LAB
Program: Diploma	Department: Math and Science
Year/Sem: 2 <sup>ND</sup> Semetser(2 <sup>nd</sup> Year)	Branch- Civil, Mechanical, Electrical, Metallurgy
Session: SUMMER	Section: A, B,C, D

WEEK	PERIOD	TOPIC TO BE COVERED
1.	1.	Introduction to Chemistry lab regarding record maintenance, safety rules and guidelines.
		<b>EXP NO.-01: Preparation of standard solution of oxalic acid or potassium permanganate</b>  Introduction of the apparatus & chemical required, Explanation of Theory & safety precautions to students,
	2.	Demonstration of Experiment  Experiment performed by students
2.	3.	Record writing by the students, record checking and viva voce.
		ASSESSMENT
	4.	<b>EXP NO.-02: To determine strength of given sodium hydroxide solution by titrating against standard oxalic acid solution using phenolphthalein indicator</b>  Introduction of the apparatus & chemical required, Explanation of Theory to students  Demonstration of Experiment
3.	5.	Experiment performed by students
		Record writing by the students,
	6.	Record checking and viva voce.
		ASSESSMENT
4.	7.	<b>EXP NO.-03: Standardization of <math>KMnO_4</math> solution using standard oxalic acid and Determine the percentage of iron present in given Hematite ore by <math>KMnO_4</math> solution</b>  Introduction of the apparatus & chemical required, Explanation of Theory to students  Demonstration of Experiment

	8.	Experiment performed by students
		Record writing by the students,
5.	9.	Record checking and viva voce.
		ASSESSMENT
	10.	<b>EXP NO.-04: Volumetric estimation of total acid number (TAN) of given oil.</b> Introduction of the apparatus & chemical required, Explanation of Theory to students
		Demonstration of Experiment
6.	11.	Experiment performed by students
		Record writing by the students,
	12.	Record checking and viva voce.
		ASSESSMENT
7.	13.	<b>EXP NO.-05: Volumetric estimation of Total hardness of given water sample using standard EDTA solution.</b> Introduction of the apparatus & chemical required, Explanation of Theory to students
		Demonstration of Experiment
	14.	Experiment performed by students
		Record writing by the students,
8.	15.	Record checking and viva voce.
		ASSESSMENT
	16.	<b>EXP NO.-06: Volumetric estimation of alkalinity of given water sample using 0.01M sulphuric acid</b> Introduction of the apparatus & chemical required, Explanation of Theory to students
		Demonstration of Experiment
9.	17.	Experiment performed by students
		Record writing by the students,
	18.	Record checking and viva voce.
		ASSESSMENT
10.	19.	<b>EXP NO.-07: Proximate analysis of coal: Gravimetric estimation moisture &amp; ash in given coal sample</b> Introduction of the apparatus & chemical required, Explanation of Theory to students

		Demonstration of Experiment
	20.	Experiment performed by students
		Record writing by the students,
11.	21.	Record checking and viva voce.
		ASSESSMENT
	22.	<b>EXP NO.-08: Determine the conductivity of given water sample</b> Introduction of the apparatus & chemical required, Explanation of Theory to students
		Demonstration of Experiment
12.	23.	Experiment performed by students
		Record writing by the students,
	24.	Record checking and viva voce.
		ASSESSMENT
13.	25.	<b>EXP NO.-09: To verify the first law of electrolysis of copper sulfate using copper electrode</b> Introduction of the apparatus & chemical required, Explanation of Theory to students
		Demonstration of Experiment
	26.	Experiment performed by students
		Record writing by the students,
14.	27.	Record checking and viva voce.
		ASSESSMENT
	28.	<b>EXP NO.-10: To study the effect of dissimilar metal combination.</b> Introduction of the apparatus & chemical required, Explanation of Theory to students
		Demonstration of Experiment
15.	29.	Experiment performed by students
		Record writing by the students,
	30.	Record checking and viva voce.
		ASSESSMENT

*Sas*  
Signature of Faculty 09/01/26

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Counter Signature of HOD 09/01/26

*Sas*  
Counter Signature of Academic Co-ordinator 09/01/26