GOVERNMENT POLYTECHNIC, KANDHAMAL

PHULBANI

DEPARTMENT OF MATHEMATICS & SCIENCE

LESSON PLAN

APPLIED CHEMISTRY PRACTICAL

FOR

2ND SEMESTERS

(BRANCH: COMMON)

PREPARED BY

Gouranga Badhei

Sr. Lecturer in Chemistry

Syllabus

NAME OF THE COURSE: APPLIED CHEMISTRY LABORATORY			
COURSE CODE	**Pr 5**	**SEMESTER**	**2ND**
THEORY PERIODS	**2 Periods/Week**	**EXAMINATION**	**3 Hrs**
TOTAL PERIODS	**30**	**SESSIONAL**	**25 Marks**
MAXIMUM MARKS	**50**	**END SEMESTER EXAMINATION**	**25 Marks**

Course Outcome

After completion of the course the students will be able to:

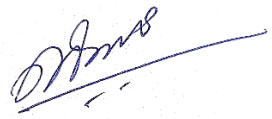
CO-1 Explain various methods of volumetric analysis i.e. Redox, Iodometric, complexometric, Neutralization etc. and use of conductivity meter for measurement of conductance of water sample.

CO-2 Apply the use of internal and external indicators and their comparison for redox titrations and mechanisms of iodometric titrations and use of double indicator method in a single titration.

CO-3 Estimate the % values of moisture, volatile matter, ash and carbon of fuel by Proximate analysis and instrument handling.

CO-4 Analyse the properties of lubricants viz. Flash & fire point, viscosity, cloud & pour point and their significance.

S.N.	Period	Experiment
1	1-3	Preparation of standard solution of oxalic acid or potassium permanganate.
2	4-6	To determine strength of given sodium hydroxide solution by titrating against standard oxalic acid solution using phenolphthalein indicator.
3	7-9	Standardization of KMnO4 solution using standard oxalic acid and determine the percentage of iron present in given Hematite ore by KMnO4 solution.
4	10-12	Iodometric estimation of copper in the copper pyrite ore.
5	13-15	Volumetric estimation of total acid number (TAN) of given oil.
6	16-18	Determine the conductivity of given water sample.
7	19-21	Determination of calorific value of solid or liquid fuel using bomb calorimeter.
8	22-24	Determination of viscosity of lubricating oil using Redwood viscometer.
9	25-27	Determination of flash and fire point of lubricating oil using Able's flash point apparatus.
10	28-30	To verify the first law of electrolysis of copper sulphate using copper electrode.



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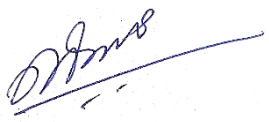

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