

# LESSON PLAN

SUBJECT: APPLIED CHEMISTRY LAB.


BRANCH: COMMON TO ALL BRANCH

SEMESTER: 2<sup>ND</sup> (2024-25)

NAME OF THE FACULTY: SATYAJIT DHAL & AJIT KUMAR PALLEI



## GOVERNMENT POLYTECHNIC, BHADRAK

  
HOD, Math & Sc  
H.O.D. Math & Sc (I/c)

  
Academic Coordinator

  
Principal  
Govt. Polytechnic  
Bhadrak

**GOVT. POLYTECHNIC, BHADRAK**  
**AT: TENTULIGADIA, VIA: RAHANDIA, DIST: BHADRAK, PIN: 765135**

E-mail: [principalgpbhadrak@gmail.com](mailto:principalgpbhadrak@gmail.com) Tel: 9438806922

**LESSON PLAN FOR WINTER SEMESTER – 2024**

**Dept. of Math & Science, Govt. Polytechnic, Bhadrak**

Name of the Faculty : Satyajit Dhal & Ajit Kumar Pallei

Course Code: PR 5

Practical: Applied Chemistry Lab

Total Periods : 30

Examination: Summer-2025

Sem: 2<sup>nd</sup>

Sessional: 25 Mark

End Sem. Exam: 25 Mark

Total Mark : 50 Mark

Class Start : 04-02-2025

	<b>Semester:</b> <b>1<sup>ST</sup></b>	<b>Name of the Teaching Faculty :</b> <b>Satyajit Dhal &amp; Ajit Kumar Pallei</b>
<b>Subject:</b> <b>Chemistry</b> <b>Lab</b>	<b>No. of Days/per</b> <b>week class</b> <b>allotted:</b> <b>2 Periods</b>	<b>Semester from date: 04-02-2025</b> <b>To Date: 17-05-2025</b>  <b>No. of Weeks: 15</b>
<b>Week</b>	<b>Class Day</b>	<b>Theory/ Practical Topics</b>
1 <sup>st</sup>	1 <sup>st</sup>	Demonstration & Lab practice of To determine strength of given sodium hydroxide solution by titrating against standard oxalic acid solution using phenolphthalein indicator.
2 <sup>nd</sup>	1 <sup>st</sup>	Demonstration of Standardization of KMnO <sub>4</sub> solution using standard oxalic acid and Determine the percentage of iron present in given Hematite ore by KMnO <sub>4</sub> solution.
3 <sup>rd</sup>	1 <sup>st</sup>	Lab practice of Standardization of KMnO <sub>4</sub> solution using standard oxalic acid and Determine the percentage of iron present in given Hematite ore by KMnO <sub>4</sub> solution.
4 <sup>th</sup>	1 <sup>st</sup>	Demonstration of Iodometric estimation of copper in the copper pyrite ore.
5 <sup>th</sup>	1 <sup>st</sup>	Lab practice of Iodometric estimation of copper in the copper pyrite ore.
6 <sup>th</sup>	1 <sup>st</sup>	Demonstration of Volumetric estimation of total acid number (TAN) of given oil.
7 <sup>th</sup>	1 <sup>st</sup>	Lab practice of Volumetric estimation of total acid number (TAN) of given oil.
8 <sup>th</sup>	1 <sup>st</sup>	Demonstration of Volumetric estimation of a) Total hardness of given water sample using standard EDTA solution. b) Alkalinity of given water sample using 0.01M sulphuric acid
9 <sup>th</sup>	1 <sup>st</sup>	Lab practice of Volumetric estimation of a) Total hardness of given water sample using standard EDTA solution. b) Alkalinity of given water sample using 0.01M sulphuric acid.
10 <sup>th</sup>	1 <sup>st</sup>	Demonstration of Proximate analysis of coal a) Gravimetric estimation moisture in given coal sample b) Gravimetric estimation ash in given coal sample.
11 <sup>th</sup>	1 <sup>st</sup>	Lab practice of Proximate analysis of coal a) Gravimetric estimation moisture in given coal sample b) Gravimetric estimation ash in given coal sample.
12 <sup>th</sup>	1 <sup>st</sup>	Demonstration & Lab practice of Determine the conductivity of given water sample.
13 <sup>th</sup>	1 <sup>st</sup>	Demonstration & Lab practice of Determination of the Iron content in given cement sample using colorimeter.
14 <sup>th</sup>	1 <sup>st</sup>	Demonstration & Lab practice of Determination of calorific value of solid or liquid fuel using bomb calorimeter.
15 <sup>th</sup>	1 <sup>st</sup>	Record Check.



Additional Experiment		
	Expt.11	Determination of viscosity of lubricating oil using Redwood viscometer
	Expt.12	Determination of flash and fire point of lubricating oil using Able's flash point apparatus.
	Expt.13	To verify the first law of electrolysis of copper sulfate using copper electrode.
	Expt.14	Construction and measurement of emf of electrochemical cell (Daniel cell).
	Expt.15	To study the effect of dissimilar metal combination.



Signature of the Faculty