

**GOVERNMENT POLYTECHNIC, GAJAPATI**  
**Department of Mathematics&Science**

**Academic Lesson Plan for 2nd Semester - 2026 (Summer)**

**Subject: APPLIED CHEMISTRY LAB**

**Name of the teaching faculty : Pitabasa Panda**

<b>Semester from date: 09/01/2026 to 08/05/2026</b>	<b>No. of periods per week: 2 No. of weeks: 15 Total periods: 30</b>	<b>Sessional : 25 Marks End sem exam : 25 Marks Total Marks : 50 Marks</b>
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WEEK	CLASS DAY	THEORY/PRACTICAL TOPICS
1ST	1ST	Preparation of standard solution of oxalic acid or potassium permanganate
	2nd	Preparation of standard solution of oxalic acid or potassium permanganate
2ND	1ST	To determine strength of given sodium hydroxide solution by titrating against standard oxalic acid solution using phenolphthalein indicator.
	2ND	To determine strength of given sodium hydroxide solution by titrating against standard oxalic acid solution using phenolphthalein indicator
3RD	1ST	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.
	2ND	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.
4TH	1ST	Volumetric estimation of a) Total hardness of given water sample using standard EDTA solution.
	2ND	VOLUMETRIC ESTIMATION OF b) Alkalinity of given water sample using 0.01M sulphuric acid
5TH	1ST	Proximate analysis of coal Gravimetric estimation moisture in given coal sample
	2ND	Proximate analysis of coal Gravimetric estimation MOISTURE in given coal sample
6TH	1ST	Proximate analysis of coal Gravimetric estimation OF ASH in given coal sample
	2ND	Proximate analysis of coal Gravimetric estimation ASH in given coal sample
7TH	1ST	Determine the conductivity of given water sample.
	2ND	Determine the conductivity of given water sample.
8TH	1ST	Determination of the Iron content in given cement sample using colorimeter
	2ND	Determination of the Iron content in given cement sample using colorimeter
9TH	1ST	Determination of calorific value of solid or liquid fuel using bomb calorimeter
	2ND	Determination of calorific value of solid or liquid fuel using bomb calorimeter
10TH	1ST	Determination of viscosity of lubricating oil using Redwood viscometer.
	2ND	Determination of viscosity of lubricating oil using Redwood viscometer.
11TH	1ST	Determination of flash and fire point of lubricating oil using Able's flash point apparatus.
	2ND	Determination of flash and fire point of lubricating oil using Able's flash point apparatus.
12TH	1ST	To verify the first law of electrolysis of copper sulfate using copper electrode
	2ND	To verify the first law of electrolysis of copper sulfate using copper electrode
13TH	1ST	Construction and measurement of emf of electrochemical cell (Daniel cell).
	2ND	Construction and measurement of emf of electrochemical cell (Daniel cell).
14TH	1ST	To study the effect of dissimilar metal combination
	2ND	To study the effect of dissimilar metal combination
15TH	1ST	Alkalinity of given water sample using 0.01M Sulphuric acid
	2ND	Alkalinity of given water sample using 0.01M sulphuric acid