UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

Academic Lesson Plan for 2nd Semester – 2025 (Summer)

Name of the teaching faculty: Miss Dasmanti sabar ,
Guest faculty (Chemistry)
Discipline : Common (Civil/Electrical/E&TC/Mechanical)
Dept. : Department of Mathematics & Science
Semester : 2nd
Subject : Pr 5 : Applied Chemistry Laboratory
No of Periods per week: 4 Total Periods: 30,
End semester Exam.: 25 Marks, Sessional: 25Marks,
Total Marks: 50 Marks

Week	Period	Experiment	Topics to be covered
1st	1st		Introduction to chemistry lab, about safety measures, about maintenance of practical records.
	2nd		Introduction to the students about use of different lab equipments and how to handle them safely.
	3rd	Exp.1	Preparation of standard solution of oxalic acid and potassium permanganate.
	4th	Exp. 2	Acid base titration of oxalic acid against sodium hydroxide using phenolphthalein indicator.
2nd	1st	Exp.1	Checking observation record.
	2nd	Exp. 3	Standardization of $KMnO_4$ solution against oxalic acid.
	3rd	Exp.3	Determine the percentage of iron present in the given hematite ore by $KMnO_4$ solution.
	4th	Exp.2	Expt. Conducted by the Students
3rd	1st	Exp.2	Checking of rough practical record
	2nd	Exp.3	Expt. Conducted by the Students expt.3
	3rd	Exp.3	Expt. Conducted by the Students expt.3
	4th	Exp.3	Checking of rough practical record
4th	1st	Exp.1	Checking of practical records and discussion of viva questions of expt. 1
	2nd	Exp.2	Checking of practical records and discussion of viva questions of expt. 2

	3rd	Exp.3	Checking of practical records and discussion of viva questions of expt. 3.
	4th	Exp.4	Introduction of iodometric estimation of copper in the copper pyrite ore.
5th	1st	Exp.4	Demonstration of iodometric estimation.
	2nd	Exp.4	Checking of rough practical record
	3rd	Exp.4	Expt. Conducted by the Students.
	4th	Exp.4	Expt. Conducted by the Students.
6th	1st	Exp.4	Checking of practical records and discussion of viva questions of expt. 4.
	2nd	Exp.4	Checking of practical records and discussion of viva questions of expt. 4.
	3rd	Exp.5	Introduction and explanation of total acid number (TAN) of given oil.
	4th	Exp.5	Explanation of procedure of exp.5 and discussion.
7th	1st	Exp.5	Demonstrate of the expt. 5
	2nd	Exp.5	Expt. Conducted by student
	3rd	Exp.5	Checking of rough practical record
	4th	Exp.5	Checking of practical records and discussion of viva question of expt.5
8th	1st	Exp.6	Introduction of determining the conductivity of given water sample.
	2nd	Exp.6	Explanation of experiment 6 procedure and discussion.
	3rd	Exp.6	Demonstrating expt.6
	4th	Exp.6	Expt. Conducted by the Students
9th	1st	Exp.6	Expt. Conducted by the Students
	2nd	Exp.6	Checking of observation record.

	3rd	Exp.6	Checking of practical records and discussion of viva questions of expt.6
	4th	Exp.7	Introduction of determination of iron content in given cement sample using colorimeter.
10th	1st	Exp.7	Demonstrating exp.7 and explanation of procedure.
	2nd	Exp.7	Expt. Conducted by the Students
	3rd	Exp.7	Checking observation record.
	4th	Exp.7	Checking of practical records and discussion of viva questions of expt.7
11th	1st	Exp.7	Checking of practical records and discussion of viva questions of expt.7
	2nd	Exp.8	Determination of viscosity of lubricating oil using redwood viscometer.
	3rd	Exp.8	Explanation of working of redwood viscometer
	4th	Exp.8	Explanation of procedure of expt.8.
12th	1st	Exp.8	Demonstrating the working of redwood viscometer.
	2nd	Exp.8	Checking of observation record.
	3rd	Exp.8	Checking of practical records and discussion of viva questions of expt.8.
	4th	Exp.9	Determination of flash and fire pint of lubricating oil using Able's point apparatus.
13th	1st	Exp.9	Demonstrate of the exp.9(Able's apparatus)
	2nd	Exp.9	Explanation of working of Able's apparatus and its procedure.
	3rd	Exp.9	Checking observation record
	4th	Exp.9	Checking of practical records and discussion of viva questions of expt.9.
14th	1st	Exp.9	Checking of practical records and discussion of viva questions of expt.9..
	2nd	Exp.10	To verify the first law of electrolysis of copper sulphate using copper electrode.
	3rd	Exp.10	Discussion of laws of electrolysis.

	4th	Exp.10	Demonstration of the expt.10 and explanation of the working principle.
15th	1st	Exp.10	Explaining the procedure exp.10.
	2nd	Exp.10	Checking of rough observation record
	3rd	Exp.10	Checking of practical records and discussion of viva questions of expt.10.
	4th	Exp.10	Checking of practical records and discussion of viva questions of expt.10.

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