

Chemistry Lab

[Common to Civil, Mechanical, Mechanical (Robotics)]

Course Code: 22BC1104

L	T	P	C
0	0	3	1.5

Course Outcomes: At the end of the Course the student shall be able to

CO 1: Determine the quality of the ground water sample (L3).

CO 2: Determine the metal content in different ores and cement (L3).

CO 3: Explain the functioning of the instruments like pH metry, Conductometry and Potentiometry (L2).

CO 4: Determine the physical properties like surface tension and viscosity (L3).

CO 5: Use spectrophotometry to determine the metal ions (L3).

Any **TWELVE** of the following experiments are to be performed during the semester.

List of Experiments:

1. Determination of Total hardness of a groundwater sample.
2. Determination of active chlorine content in Bleaching powder.
3. Determination of iron in an iron ore sample
4. Determination of copper in a copper ore
5. Determination of calcium in portland cement
6. Determination of Sulphuric acid in lead-acid storage cells.
7. Determination of chromium (VI) by hypo.
8. Determination of strength of an acid by pH-metric method.
9. Determination of Fe (II) in Mohr's salt by potentiometric method.
10. Determination of strength of an acid by conductometric method
11. Determination of viscosity of a liquid
12. Determination of surface tension of a liquid
13. Determination of Flash and Fire points of a lubricant
14. Preparation of Biodiesel from vegetable oil
15. Preparation of gold nanoparticles
16. Determination of Fe(III) in cement by spectrophotometry.

Reference Books:

1. N.K Bhasin and Sudha Rani, *Laboratory Manual on Engineering Chemistry*, 3rd edition , Dhanpat Rai & Sons, New Delhi, 2007.
2. P.C. Jain and M. Jain, *Engineering Chemistry*, 15th edition, Dhanapat Rai & Sons, Delhi, 2014.
3. A.I.Vogel, *A Textbook of quantitative chemical analysis*, 6th edition, Pearson Education Pvt. Ltd., 2002.