

MARTHANDAM COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF SCIENCE AND HUMANITIES

CHEMISTRY LAB

Equipments Available in the Lab

Sl.No	Hardware	Specification
1	Digital Conductivity Bridge	10u mho to 1000 m mho in 5 ranges
2	Distillation Unit	1.5 -2.0Scm ⁻¹
3	Flame Photometer	290x255x210m(LxBxH)(Approx)
4	Hot Air Oven	Room temperature+5to 300 ⁰ C
5	Hot Plate	Up to 300 ⁰ C
6	Magnetic Stirrer	Top Plate Dimensions: 180 x 180 mm.
7	Ph Meter	80 to 120%
8	Platinum Electrodes	0.0317 Cal/g/K @ 25 °C
9	Potentiometer Digital	0 – ± 199.9 mV, 0 – ± 1999mV
10	Reference Electrodes (Calomel)	0-14
11	Top loading Balance	Accuracy. 1 GM TO 100 GM.
12	UV Visible Spectrometer	10~4000 nm/min (8000 nm/min in preview mode)
13	Water bath	Chamber Dimensions, 300 x 250 x 100mm,
14	Extension Box	6 A. Voltage, 240 V , 50 Hz AC
15	V-Guard Stabilizer	120 Cm (47) + Set Top Box + Home Theatre/Gaming Console: Voltino TV .
16	PH – Combined Electrode	-15 to 80 ⁰ C/ 5 to 176 ⁰ F)
17	Cuvettes for Spectrophotometer	UV grade PMMA - 280 to 800nm, Polystyrene - 340 to 800nm.

MARTHANDAM COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF SCIENCE AND HUMANITIES

COURSES OFFERED

Sl.No	Odd Sem (Course code & Name)	Class	Even Sem (Course code & Name)	Class
1	BS3271 – Physics Chemistry Lab	1 Semester All Branches		

BS3171 - PHYSICS CHEMISTRY LABORATORY (CHEMISTRY)

OBJECTIVES:

- To learn the proper use of various kinds of physics laboratory equipment
- To learn how data can be collected, presented and interpreted in a clear and concise manner
- To learn problem solving skills related to physics principles and interpretation of experimental
- To determine error in experimental measurements and techniques used to minimize such
- To make the student as an active participant in each part of all lab exercises

OUTCOMES:

- CO1 To analyse the quality of water samples with respect to their acidity, alkalinity, hardness and DO.
- CO2 To determine the amount of metal ions through volumetric and spectroscopic techniques
- CO3 To analyse and determine the composition of alloys.
- CO4 To learn simple method of synthesis of nanoparticles
- CO5 To quantitatively analyse the impurities in solution by electroanalytical technique

LIST OF EXPERIMENTS

1. Determination of chloride content of water sample by Argentometric method.
2. Determination of Alkalinity of water sample
3. Determination of strength of given hydrochloric acid using pH meter
4. Determination of strength of acids in a mixture of acids using conductivity meter
5. Conductometric titration of barium chloride against sodium sulphate (precipitation titration)
6. Estimation of iron content of the given solution using potentiometer
7. Determination of total, temporary & permanent hardness of water by EDTA method