

BSAC - 3N101  
[W.e.f. 2020-21 Admitted Batch]

## SEMESTER - I

Course I (ANALYTICAL CHEMISTRY-1)

60 hrs. (4h/w)

### Objectives

The objective of this course is to make students aware about the SI Units, concentration terms, various analytical methods, types of errors in chemical analysis, statistical tests of data and safe usage of chemicals and its waste. And Thermal Gravimetry

### Course Learning Outcomes:

#### By the end of the course, the students will be able to:

- Understand about SI units
- Learn use of analytical equipment
- Know types of errors in chemical analysis
- Handle statistical tests of data
- Know safety with chemicals and waste.

## BASIC PRINCIPLES & LABORATORY OPERATIONS

### UNIT - I

#### I. Basic Concepts:

12hrs

##### A. SI Units

i) Definitions of the Seven Basic Units (Mass, Length, Time, Temperature, Amount of substance, Electrical current and Luminous intensity), Derived units, Conversion between units, Significant figures.

##### B. Chemical concentrations

- i) Mole, molar mass
- ii) Calculations in grams and moles
- iii) Solutions and their concentrations:
  - a) Molar concentration
  - b) Analytical molarity
  - c) Equilibrium molarity of a particular species
  - d) Percent concentration
  - e) Parts per million/billion (ppm, ppb)
  - f) Volume ratios for dilution procedures
  - g) p-functions.

C. Preparation of solutions: standard solutions, primary standards, secondary standards.

