

B.Sc. II (Semester III)

Paper - Vocational

Course Title : Standard Laboratory Practices in Chemistry

Programme /Class : Diploma in standard Laboratory Practices in Chemistry.	Year : Second	Semester : Third
---	---------------	------------------

Paper : Vocational

Subject : Chemistry

Course Title : Standard Laboratory Practices in Chemistry

Course Outcome : The objective of the course is to prepare student to be able to undertake the responsibilities of a chemical Laboratory as profession.

Credits : 3

Min Passing Marks :

Max Marks :

Total Number of Lectures : 45 = (15 + 30) Theory + Practical

Theory

Unit	Topics	No. of Lectures
I	Chemical formulae and calculations : Empirical formula, molecular formula, valency, oxidation number, atomic weight, Equivalent weight, molecular weight, normality, molarity, molality, percentage.	6
II	Electrolyte, non-electrolyte, theory of electrolytic dissociation, degree of dissociation, strong and weak electrolytes.	3
III	Acid, base, salt, strength of acid and base, dissociation and ionic product of water, pH, hydrolysis, buffer solution.	3
IV	Solution, dilute and concentrate solution, saturated, super saturated, unsaturated solution, solubility product, precipitation, solubility of precipitate.	3

Practical

I	Weighing of chemicals by physical and chemical balance, standardisation of balance, precautions and maintenance.	8
II	Principle, functioning, safety and maintenance of Bunsen burner.	2
III	Handling, calibration and maintenance of glassware and instruments like burette, pipette, water filtration pump, Thiele's tube, density bottle, stalagmometer, pycnometer, viscometer, water and air condenser, water bath, sand bath, kipp's apparatus, hot air oven, muffle furnace.	18
IV	Storage, arrangement of solid and liquid laboratory chemicals, preparation of solutions, reagents and indicators. Safety measures in chemical laboratory.	2

Suggested Readings :

1. Mendham, J. Vogel's Quantitative chemical Analysis, Pearson, 2009.
2. Vogel, A.I. A text book of Qualitative inorganic Analysis, Revised by G. Svehla.
3. Furniss, B.S. Hannaford, A.I. Rogers, V.; Smith, P.W.G.; Fatchell, A.R. Vogel's Text book of Practical Organic chemistry, ELBS
4. Khopkar, S.M. Basic concepts of Analytical Chemistry, New Age, 2009.

Suggested Continuous Evaluation Methods :

Viva - Voce, Mock test, Attendance, Overall performance

Course prerequisites : To study this course, a student must have opted Vocational course : Standard Laboratory Practices.