

**P. T. Sarvajanik College of Science**

**Surat**

**(Affiliated to the Veer Narmad South Gujarat University, Surat)**

**Certificate Course in Fundamental Chemistry**

**2 Credits Course**

**Total Contact hours:- 30**





SARVAJANIK EDUCATION SOCIETY

# P. T. SARVAJANIK COLLEGE OF SCIENCE

NAAC ACCREDITED 'A' ( 3.03 CGPA )

*COLLEGE WITH POTENTIAL FOR EXCELLENCE*

No. :

Date :

## Bridge course in Chemistry

### **Course outcome:**

Southern Gujarat is a giant hub of chemical industries and these industries are engaged in production of petrochemicals, fertilizers, polymers, Insecticide- pesticides, dyes, drugs, intermediates and all most all types of businesses related to chemicals. By keeping this in mind and future scope, Sir P T Sarvajani college of science is offering B. Sc programme in Chemistry since its inception and have PG centre in Organic chemistry too since long. In current scenario students have become more exam oriented rather than knowledge oriented. Hence, when they appear for interviews or subject discussion, many students found to have forgotten their basics or might be their fundamentals are not clear. This programme is designed to fill this gap. This course will not only boost their fundamental understanding but will clear their concepts and make them sound in basics as well as increase their confidence level while they appear for interview or subject discussion.





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**Eligible students:** Any Students from F.Y. to T.Y. will be preferred.

**Course content:** Bridge Course 2017-18

UNIT I	Method to express concentration of solution Molarity, Normality, Percentage, ppm, ppb etc. Preparation of solution and their standardization(problems).	5 hrs
UNIT II	Balancing of redox reactions, stoichiometric calculation involving molar and normal solutions, common acid base titration, redox titrations-iodometry and iodimetry	3 hrs
UNIT III	PH of solution, problem of calculating PH of strong acid-base, weak acid base and salt solutions. Buffer solution-Henderson equation to calculate PH, Buffer capacity.(problems)	3 hrs
UNIT IV	Basic of organic chemistry: Elemental analysis, Quantitative determination of percentage of elements in organic compounds, Nomenclature of organic compounds.	3 hrs
UNIT V	Inductive effect, Electromeric effect, Resonance effect, Hyperconjugation, Carbocations, Free radicals. Reaction mechanism-Addition and Substitution reactions.(Electrophilic and Nucleophilic)	3 hrs
UNIT VI	Basics of thermodynamics, law of thermodynamics, Thermodynamic function and their Interrelations	4 hrs
UNIT VII	General inorganic chemistry: structure of atom, periodic properties of elements, Hydrogen bonding, Corrosion, Co-ordination chemistry, hybridization, VSEPR theory.	4 hrs
UNIT VIII	Industrial visit	5 hrs
TOTAL		30 hrs

