

## SYLLABUS FOR SUBSIDIARY CHEMISTRY (SCH)

### PAPER—I : Theory (100 marks)

- Unit 1 : Physical States of Matters — Gaseous states
- Unit 2 : Physical States of Matters — Liquid states and Crystalline states
- Unit 3 : Structure of Atoms
- Unit 4 : Periodicity, Radioactivity and Nuclear structure
- Unit 5 : Chemical Thermodynamics — 1st Law of Thermodynamics and Thermochemistry
- Unit 6 : Chemical Thermodynamics — 2nd Law of Thermodynamics and Chemical Equilibrium
- Unit 7 : Chemical Kinetics and Catalysis, Photochemistry, Phase Rule and Colloids
- Unit 8 : Acids, Bases and Solvents
- Unit 9 : Solutions : Electrolytes and Non-electrolytes
- Unit 10 : Chemical Bonding and Structure

#### Reference :

1. University General Chemistry — C. N. R. Rao
2. Physical Chemistry — S. R. Palit
3. Bhouta Rasayan (Bengali) — P. C. Rakshit and P. R. Gupta
4. Bhouta Rasayan (Bengali) — N. Kundu
5. Prathamik Sadharan O Bhouta Rasayan — N. G. Mukherjee

### PAPER—II : Theory (100 marks)

- Unit 1 : s - and d - Block Elements and their compounds.
- Unit 2 : p - Block Elements and their compounds
- Unit 3 : Stereochemistry of organic and Inorganic compounds
- Unit 4 : Aliphatic and Aromatic hydrocarbons (Benzenes and homologues)
- Unit 5 : Alkyl and Aryl halides
- Unit 6 : Organometallic compounds and Alcohols and Ethers
- Unit 7 : Aldehydes and Ketones, Phenols, Carboxylic acids and derivatives
- Unit 8 : Organonitrogen compounds
- Unit 9 : Carbohydrates
- Unit 10 : Bio-chemistry (Amino acids, Proteins and Nucleic acids)

#### Reference :

1. Inorganic Chemistry — A. K. De
2. Sadharan and Ajaiba Rasayan — S. N. Poddar and S. Ghosh

3. General Organic Chemistry — S. K. Ghosh
4. Jaiba Rasayan (Bengali) — S. P. Banerjee
5. Organic Chemistry — Bahl and Bahl

**PAPER—III : Practical (100 marks)**

- Unit 1** : Experimental Methods and Apparatus used in Inorganic Chemistry
- Unit 2** : Identification of Acid radicals
- Unit 3** : Identification of Cations
- Unit 4** : Experimental Methods and Apparatus used in Organic Chemistry
- Unit 5** : Qualitative Analysis of Organic Compounds
- Unit 6** : Dimensional Analysis : Introduction
- Unit 7** : Acidimetry Alkalimetry
- Unit 8** : Oxidization-Reduction, Titration