**AND HRA UNIVERSITY**

**DEPARTMENT OF ORGANIC CHEMISTRY AND FDW**

**M.Sc. Previous Chemistry Syllabus, Semester - II**

**Paper- II: Organic Chemistry - II**

II SEMESTER

Course/Paper - III: Organic Chemistry - 2 ,

**UNIT - I**

Aromatic substitution reactions - electrophilic, nucleophilic and through benzynes - radical substitution of arenes - orientation of nucleophilic substitution at a saturatéd, carbon, SN1, SN2, SNi reactions -effect of structure, nucleophile, leaving group, solvent. Additions involving electrophiles, nucleophiles and free radicals.

Elimination reactions - El, - E1CB, E2 reactions – elimination versus substitution reactions.

**U.NIT - II**

 Mechanism of some name reactions: Aldol, Perkin, Benzoin, Cannizaro, Wittig, Grignard, Reformatsky - Meerwein, Hoffmann Claisen and Favorsky rearrangements. Hydroboration - openauer oxidation, clemmensen reduction - Meerwein - Pondorf and verley and Birch reductions. Stork enamine reactions, Michael addition, Mannich Reaction, Diels - Alder reaction, Ene - reaction, Bayer - Villiger Reaction.

**UNIT - III**

Spectra and structure - application of organic spectroscopy UV, IR, 1HNMR and Mass spectral data.

**UNIT - IV**

Isolation, structure elucidation and synthesis of alkaloids; atropine, nicotine, and quinine. Purines - Caffeine configuration and ring structures of glucose and fructose, anomeric effects.

 **Text books:**

 1. Organic Chemistry Vol. I (Sixth Edn.) and Vol. II (Fifth Ed.,) by IL finar ELBS.

 2. Organic Chemistry (fifth Edn., ) by Morrison and Boyd, PHI, India.

3. Organic Chemistry (fifth edition)by Francis A. Carey Tata Mc Graw Hill publishing

company Limited, New Delhi.

4. Reaction Mechanism in Organic Chemistry by Mukherjee Sirigh, NTerniitarr, Indiar

5. A guide book to mechanism in Organic Chemistry by Peter Sykes, ELBS.

 **REFERENCE BOOKS:**

1. Advanced organic chemistry by Jerry March (4th Edition)Wiley Eastern. .
2. Chemistry of Natural Products, K.W.Bentley by stereochemistry of carbon compounds by E.Eliel, John Wiley & Sons, Inc.
3. Stereochemistry of Organic compounds by D. Nasipuri.
4. Chemistry of Natural products by R.S. Kalsi Kalyani Publishers. 1983.