M.Sc. Chemistry (Final) Semester IV

Physical Chemistry (Special) Paper-XVII

Prof. A. Pal

Period: 02.03.2015 to 14.03.2015.

Topics

(1) Discussion about Gaussian chain model
(2) The wormlike chain model
(3) Entropy of mixing and enthalpy of mixing by lattice model
(4) Flory Huggins lattice theory
(5) Limitations of lattice model
(6) Entropy of mixing by free volume theory
(7) Heat and free energy of mixing
(8) Partial molar quantities i.e., chemical potential, heat of dilution and partial molar entropy of mixing
(9) Excluded volume
(10) Thermodynamic relations for dilute polymer solutions

Prof. R. C. Kamboj

Syllabus content* scheduled to be taught to the Students of M. Sc. 4th Sem. (Organic Spl.) in the second week of March, 2015 (from March 9-March14, 2015) is as under:

Purification of enzymes

- **Description**
- **Steps**
- **Procedure**

Assay of Enzymes

- **Objective**
- **Definition**
- **Method**

*The completion of the proposed syllabus shall depend upon the discussion/questions and other deliberations in the class.

Dr. Hardeep Anand

M.Sc. Chemistry (Previous) Semester II
Physical Chemistry (General) Paper VI

Quantum Mechanics - I

Lesson Plan for 9th to 14th March, 2015

1. Physical representation of the wave function and probability distribution for particle in 3 Dimensional box.
2. Harmonic Oscillator: Classical vs Quantum concepts.
3. Solution of the Scrödinger equation for Harmonic Oscillator.
4. Hermite polynomials and Energy eigenvalues.
5. Complete wave functions of a Harmonic Oscillator.

M.Sc. Chemistry (Final) Semester IV
Physical Chemistry (Special) Paper XX

Liquid Crystals

Lesson Plan for 9th to 14th March, 2015

1. Optical properties of Cholesteric Liquid Crystals.
2. Twisted nematics and chiral nematics.
3. Alignment of Nematic liquid crystals.
4. Molecular Statistical theory by Maier and Saupe.

Dr Suresh Kumar (From 04-03-15 to 14-03-15)

Schedule of the topics to be taught in M. Sc. Chemistry (Organic Chem., 4th Semester)

Paper	Date	Topic
Organic- XVII 4th Semester	**05-03-2015**	**Vacations**
Organic-XX 4th Semester	**06-03-2015**	
Organic-XVIII 4th Semester	**07-03-2015**	
Organic- XVII 4th Semester	**12-03-2015**	Two group C-C disconnection- Diels Alder reactions
Organic-XX	**13-03-2015**	Analgesics, Antipyrics and

4th Semester		Antiinflammatory agents: Morphine and related compounds (codeine and heroin)
Organic-XVIII 4th Semester	**14-03-2015**	Spectroscopic methods of structure determination of flavonoids

Dr. Ramesh Kumar (04.03.2015 to 14.03.2015)

Schedule of topics to be taught in M.Sc. Chemistry (2nd and 4th Semester)

Date	Semester	Paper No.	Topics
04.03.2015	II	VII	**VACATION**
06.03.2015	IV	XIX	
07.03.2015	IV	XIX	
11.03.2015	**II**	**VII**	**Addition of LAH to carbonyl compounds and Acid derivatives**
13.03.2015	**IV**	**XIX**	**Structure elucidation and synthesis of α-terpineol**
14.03.2015	**IV**	**XIX**	**Structure elucidation and synthesis of α-pinene**

Dr. Parvin Jangra(09-03-15 to 15-03-15)

Class	Paper	Topic
M. Sc. IV sem	XVIII	Synthesis of azoles
M. Sc. IIsem	VII	Carbocation rearrangements

SitaRam (Lession plan for the period 09.03.15-15.03.15)

M.Sc. Chemistry (Final) Semester IV

Organic Chemistry (Special) Paper XIX, Section B

"Co-Enzyme Chemistry"