

Dated: 10th October 2017

NOTICE

It is notified that sessional exams for the back paper principle of chemistry I/Engineering Chemistry I will be held on following dates.

Sessional I: 17th October 2017 (12.15 pm to 1.15 pm)

Syllabus: Acid Base concepts: Arrhenius concept. Bronsted-Lowry's concept. Lux-flood salvation system. Lewis concept. Hard-soft Acid base theory (HSAB theory). indicators. Liquid ammonia system with reference to acid-base reaction. solvolysis and metathetical reaction. liquid SO₂ as non-aqueous solvent. Macromolecules: Basic idea about polymeric materials, its classification and uses. preparation of polymers using addition and condensation mechanism. molecular weight of polymeric materials and its importance. some examples of industrially important polymeric materials (polyethylene. PVC. Nylon 6. Nylon 6.6. Nylon 6.10. phenol-formaldehyde resin. urea-formaldehyde resin. polystyrene. Kevlar. PMMA). Examples of biodegradable polymers.

Sessional II: ^{31st} ~~24th~~ October 2017 (12.15 pm to 1.15 pm)

Syllabus: Valence bond theory: concept of hybridization, orbital picture of bonding (sp³, sp², sp: C-C, C-N and C-O system), Electronic (inductive, electromeric, hyperconjugation and resonance) effects. bond polarization and bond polarizability, steric effect, steric inhibition of resonance. Free radicals, carbonium ions and carbanions.

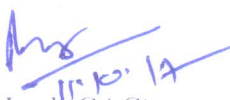
Mechanisms of Electrophilic Aromatic nitration, halogenation, sulphonation and Friedel-Crafts (alkylation and acylation) reactions. Effects of substituents on reactivity and orientation. Comparative reactivity of aryl, benzyl, vinyl and allyl halides.

Sessional III: ^{7th November} ~~31st~~ October 2017 (12.15 pm to 1.15 pm)

Syllabus: Bohr's theory of hydrogen-like atoms and ions; spectrum of Hydrogen atom, Quantum numbers. Introduction to the concept of atomic orbitals; shapes, radial and angular probability diagrams of s, p and d orbitals (qualitative ideas). Many electron atoms and ions: Pauli's exclusion principle, Hund's rule, Exchange energy, Aufbau Principle and its limitation. Periodic classification of elements, periodicity in properties, classification into metals, non-metal and insulators.

Structure and bonding, VSEPR theory, molecular orbital theory, shapes of molecules, hybridization, dipole moment and bond moment, ionic solids and lattice energy, Born Haber Cycle.

Note: 1. Students have to submit an application forwarded by the centre Head to appear in the exam.


Head (CAC)

Copy to-

1. Head, Centre for Applied Chemistry
2. Head, Centre for Applied Physics
3. Coordinator, Centre for Applied Mathematics
4. Coordinator, Centre for Life Sciences
5. Head, Centre for Environmental Sciences
6. Head, Centre for Nanotechnology
7. Head, Centre for Land Resource Management
8. Head, Centre for Energy Engineering
9. Head, Centre for Water Engineering & Management
10. Coordinator, Centre for Education

11. COE