

CHM102A, General Chemistry

Units : 2-1-0-8

Course Description:

Physical Chemistry: Quantum Theory, Quantum Mechanics of simple systems: Particle in a Box, Harmonic Oscillator and Rigid Rotor. Hydrogen Atom, Many-Electron Atoms, Molecular Orbital Theory, Spectroscopy of Simple Molecules.

Inorganic Chemistry: Crystal Field Theory and Structure of Coordination Complexes, Oxidative Addition, Reductive Elimination, Insertion Reactions, Hydrogenation, Hydroformylation, Monsanto Acetic Acid Process and Ziegler-Natta Polymerization, Metalloenzymes

Organic Chemistry: Conformational Analysis of Alkanes and Cycloalkanes, Chirality, Substitution and Elimination Reactions, Introduction to Biomolecules.

Online page: <https://piazza.com/iitk.ac.in/secondsemester2018/chm102a/home>

Instructors:

Physical Chemistry	Debabrata Goswami (I/C)	dgoswami@iitk.ac.in	7187
Organic/Inorganic Chemistry	Anand Singh	anands@iitk.ac.in	6788

Lectures: (Physical Chemistry in blue; Organic/Inorganic in red)

	Days	Time	Venue
Section A M W 9-10 am	January: 6*, 8, 10, 13*, 15, 17, 20*, 22, 24, 29, 31 February: 7, 12 March 5, 7, 12, 14, 19, 21, 26, 28 April 2, 4, 9, 11, 16, 18	9-10 am	L20
Section B M W 2-3 pm	January: 6*, 8, 10, 13*, 15, 17, 20*, 22, 24, 29, 31 February: 7, 12 March 5, 7, 12, 14, 19, 21, 26, 28 April 2, 4, 9, 11, 16, 18	2-3 pm	L20

Tutorials: (Physical Chemistry in blue; Organic/Inorganic in red)

	Days	Time	Venue
Section A F 9-10 am	January 5, 12, 19 February 2, 3*, 9, 16 March 9, 10*, 16, 23 April 6, 13, 20	9-10 am	L03, L04, L05, L06
Section B T 4-5 pm	January 9, 16, 23, 30 February 6, 13 March 6, 13, 20, 27 April 3, 10, 17	4-5 pm	L03, L04, L05, L06 (L02 instead of L4 only for January 9, 2018)

*Saturday

Quiz Schedule:

	Days	Time	Venue
Quiz-1	January 27*, 2018	9:00-9:30	L07-L13; L16-L20
Quiz-2	March 31*, 2018	8:30-9:00	L07-L13; L16-L20

*Saturday

Mid-Sem and End-Sem Schedule:

See DOAA webpage for the exam timetable:

Please NOTE both Mid-Sem and End-Sem Exams are each of 2-Hour duration.

Marks Distribution:

Quiz 1	10 %
Quiz 2	10 %
Mid Sem	40 %
End Sem	40 %

Tutors:

LHC Room	Tutorial Section	Physical Chemistry		Inorganic/Organic Chemistry	
L03	A1-A3	Aritra Das*	M. Chandra	B. Sundararaju	J. N. Moorthy
L04	A4-A6	T. G. Gopakumar	Bidhan Hazra*	J. K. Bera	D. H. Dethe
L05	A7-A9	N. Nair	Sourav Karmarkar*	R. Angamuthu	R. Gurunath
L06	A10-A12	S. Manogaran	Ajitesh Singh*	A. K. Patra	R. Ramapanicker
L03	B1-B3	Subhamoy Char*	M. Ranganathan	G. Anantharaman	V. K. Yadav
L04	B4-B6	D.L.V.K. Prasad	Kumari Sonia*	S. K. Kundu	Y. D. Vankar
L05	B7-B9	K. Srihari	Bansi Das*	P. K. Bharadwaj	M. L. N. Rao
L06	B10-B12	P. Sen	Manendra Singh Chauhan*	S. P. Rath	M. K. Ghorai

*Student tutors

Course Materials:

1. Lecture notes, assignments, and solutions will be uploaded at the course page in the piazza.com as given above.
2. Students are encouraged to involve in discussions with other students, instructors and tutors using the piazza web platform to address their doubts.

Other Important Notice:

1. **Both the End-Semester and Mid-Semester Exam are compulsory to complete the course requirement.**
2. Calculators are required for the exams. However, sharing of calculators is not allowed during the examination.
3. Mobile phones are not allowed during the examinations.
4. Please carry your institute ID card during the examinations.
5. Makeup exams for Midsem and Endsem are only allowed for cases who are in medical leave during the exams. A formally approved leave from the SUGC should be produced in this case.
6. No makeup exam will be conducted for a Quiz. Prorating will be done for cases who are in medical leave during the exam. A formally approved leave from the SUGC should be produced in this case.