

Minutes of the BOS meeting 24/09/2018

US.CHE.1.01

Unit I: To use the word 'Thermochemistry' instead of 'thermodynamics'.

Unit II: 2. i) To read Hydrogenic atoms/system instead of 'Atomic structure'

ii) To read shells instead of orbitals, radial orbital component instead of radial shapes many electron system instead of many electron atom.

iii) To read angular component instead of angular shapes

Unit III: Include Flying Wedge model.

Quantum Chemistry by Donald A. McQuarrie 2nd Edition ISBN no. 1891389505

is to be used as a text book and 'Physical Chemistry' by Peter Atkins, Julio de Paula and James Keeler (ISBN; 9780198769866) as a Reference book.

Sem I Practical

1. With reference to an experiment on 'standardisation of NaOH' the following was suggested:

i) To use molarity instead of normality.

ii) For standardisation of a solution prepare a stock and tell the students to make dilutions.

Sem II Practical

For semi-micro analysis it was suggested that a combination of H₂S and acetone can be used instead of H₂S gas.

To change the aim of the experiment pertaining to Beer-Lamberts Law.

US.CHE.1.02

Unit I: Use of textbook Puri and Sharma should be discouraged

Unit II: History of Science should be taught at the beginning of every topic

Unit III: NIL

For SYBSc and TYBSc no suggestions were made as the syllabi of Mumbai University was adopted for 2018-19.

1) Methodologies

a) Teaching

- 'Group Theory' to be added.
- Tutorials to be conducted for various topics.
- Diagnostic tests to be conducted before starting a topic.
- There should not be any dictation of notes in class.
- Numerical problems should be based on real life time examples.
- Students can be given extra coaching in math.

- It was suggested that in a week 2 days should be reserved for class work and the remaining days for field work and tutorials.
- An Academic calendar should be created in the beginning of the year so that the students are aware of the topics being thought in the lectures.
- Power-point presentations should not be used for teaching.
- The topic of errors should be introduced in the first semester.
- In the beginning some time should be reserved for teaching students how to use a scientific calculator.
- In physical chemistry Graphical Questions be asked.
- Each subject should have a concept map.
- Introduce the topic of errors at F.Y level.

b) Practical

- During practical's procedures of experiments should not be given.
- To refer to national and international papers...
- To include Olympiad competitive type questions generated by HBCSE for innovative ways of conducting experiments/practical.
- Heat of reaction: exothermic reactions can be considered in addition to endothermic reactions.
- Learning objectives and safety aspects should be specified for each experiment.
- Continuous practical assessment can be introduced
- Pre and post laboratory sessions to be conducted.
- An experiment based on viscosity can be conducted in Chemical Kinetics.
- One practical experiment should be changed every year.
- Practical's can involve different separation methods such as TLC, column chromatography, fractional distillation, etc.
- Safety of students should be a priority- must install eye wash, shower, fire bucket, etc.

c) Assessment

- During examinations MCQs should be asked such that the options are very close to each other and should never have an option such as 'all of the above/ None of the above.'
- The Question papers should be uploaded on the website.
- Internal assessment should be conducted in the form of oral examination.
- Students should be given surprise tests and /or open-book tests.
- The answer key and marking scheme should be discussed in the class.
- Semester end exam papers should be shown to the students and signatures to be taken from the students so that there is transparency.
- For Question Papers refer to websites.
- Give open book test/quizzes/surprise test

1) Workshops

- Electrochemistry -Prof.Santosh Haram, University of Mumbai.
- Chemical Kinetics-Prof.Radha V Jayaram, Institute of Chemical Teactnology

- Pictorial representation of orbitals by Prof. Shrisat, Goa University.
- Safety in Laboratory-Dr.Chobe ex-director BASF,
- Stereochemistry – Dr. Lakshmi Ravishankar, Dr.Gomati Sridhar and Dr. Gail Carneiro.
- Guest lecture's- Dr.Reddy- Institute of Chemical Technology Alumini and Arvind Kumar-Homi Bhabha Centre for Science Education.

2)Books recommended for syllabus:

- It was suggested that for every unit one text book should be recommended which costs around Rs 300/- and one or two reference books; the edition, publication, pg. no's should be indicated when mentioning the references
- **Physical Chemistry**
 - i)Modern Electrochemistry 2B 2nd Edition by John O.M-Bockris and Amulya K.N.Reddy (ISBN-0-306-46324-5)
 - ii)Physical Chemistry by Ira.N.Levine (ISBN-13-978-0072538625)
 - iii)Experiments in Physical Chemistry by Shoemaker, David.P, Garland,Carl W.
- **Organic Chemistry**
 - i)Stereochemistry and the Chemistry of Natural Products' by I.L.Finar Vol 1(ISBN:9788177585421) Vol 2(ISBN:9788177585414)
 - ii) Organic Chemistry by Jonathan, Clayden,Greeves Warren (ISBN:13) oxford-198503466
 - iii) Organic Chemistry by Graham Solomons, Craig Fryhle(ISBN:9814-12-613-6)
 - iv) Organic Chemistry by Paula Yurkanis Bruice(ISBN-81-7808-581-X)
 - v) Advanced Organic Chemistry:Reactions and Mechanisms by Maya Shankar Singh (ISBN-13:978-3527335947)
 - vi)The Organometallic Chemistry of Transition Metals-Crabtree-6th Edition (ISBN-9781118138076)
 - vii) Mechanism in Organic Chemistry-Peter Sykes (ISBN:0-306-46324-5) book by Shankar Raman IIT Madras
 - viii) Modern Molecular Photochemistry of organic Molecules-Nicholes Turro
 - ix) Spectrometric Identification of Organic Compounds-Robert.M.Silverstein, Francis.X.Webster.David.J.Kiemle(ISBN-13:978-00471393627)
 - x) Organic Spectroscopy by William Kemp (ISBN-13-978-1403906847)
 - xi) Elementary Organic Spectroscopy by Y.R.Sharma (ISBN-13:9788121928847)
- **Inorganic Chemistry**
 - i)Concise Inorganic Chemistry by J.D.Lee(ISBN 13:978-8126575547)
 - ii)Inorganic Chemistry-Principles of structure and reactivity by James .E.Huheey
 - iii)Advanced Inorganic Chemistry by F.Albert Cotton, Geoffrey Wilkinson, Carlos.A.Murillo and Manfred Bochmann (6th Edition)ISBN 13-978-0471199571)
 - iv) Principles of Solid state by H.V.Keer (ISBN 13-9788122404661)


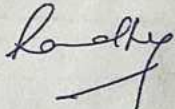
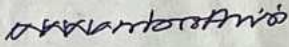


ELBS to be removed from the references and changed to Oxford Publications.

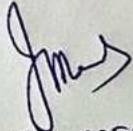
The following points were also discussed:

- Best Teacher and best Student to be awarded each year.
- NIUS programme to be introduced for students.
- Summer and winter project be assigned to the students.

- It was brought to notice that the 'Chemical Kinetics' syllabi was very similar to that of SYJC level.

Minutes passed on 19th March, 2019

- 1) Prof. Santosh Haram 
- 2) Prof. Radha V. Jayaram 
- 3) Prof. I.N.N. Namboothiri 
- 4) Dr. Rajiv Kothurkar 
- 5) Dr. Meetal Dasgupta 


 DR I A MENDES
 BOS CHAIR PERSON
 ASSOCIATE PROFESSOR
 Dept. of Chemistry
 Sophia College (Autonomous)