

Minutes of the BOS meeting held on 15<sup>th</sup> February 2020

Paper I

Semester V SMSCHE501

Unit 2.2.1

- Influence of solvent- must include  $\alpha\beta\gamma$  factors along with dielectric constant refer to Physical Organic Chemistry books for the same.

Unit 4.2

- Micelle formation should be included under surfactant aggregates
- Surfactants must include; types of surfactants, aggregates, dispersed systems and their applications.
- Micelle shape, size, orientation and its effect on value of CMC.
- Explanation of CMC and Factors affecting CMC.

Semester VI SMSCHE601

Unit 1.2

- 6 lectures for renewable energy resources are more for the stated topics.
- Include CO<sub>2</sub> capture and methanol.
- Add biofuels.

Unit 3.1

In black body radiation include numericals based on solar constant using greenhouse gases as an example.

Unit 4.1

Remove  $\tau$  scale keep only  $\delta$  scale for NMR measurement

Practical

- Include an experiment on Kinetics of polymerization.
- Construct an experiment using a three-component system including a surfactant.

References

- Reduce the number of references keep only 4 standard books with an additional 2-3 books for extended reading
- Some of the books which need to be included are:
  - The Elements of Physical chemistry by P.W. Atkins, 3<sup>rd</sup> Edition, Oxford University Press
  - Interfaces and colloids: Principles and Applications by Drew Myers, 2<sup>nd</sup> edition, Wiley Publications.
  - Physical Chemistry: A molecular approach by Donald McQuarrie, Viva Books.
  - Advanced Physical Chemistry Calculations by Avery and Shaw.
  - Practical Physical Chemistry by Vishwanathan and Raghavan, Viva Books.
  - Experiments in Physical Chemistry by David P Shoemaker.

- Books like Elements of Physical Chemistry by Puri and Sharma should not be recommended.

### Paper II

#### Semester V SMSCHE502

##### Unit 2.2

- Include combustion synthesis, isothermal methods

##### Unit 4.2

- Include size effect on MP, Band gap, oxidation state, surface area, Numerical on nanomaterial stabilization

#### Sem VI SMSCHE602

##### Unit 3.1

- Include applications of OMC
- Homogenous catalysts applications.

##### Unit 3.3

- Catalysis heterogeneous does not fit in.
- Coupling and cross coupling can be included.
- 6 lectures are too much for the stated topics

#### Practicals

- Can do quantification of nanoparticles.

#### References

- Some of the books to be included
  - Solid State Chemistry by Smart and Moore.
  - Solid State Chemistry by Kittle
  - Solid State Chemistry by Keer

### Paper III

#### Semester V SMSCHE503

##### Unit 2.2

- Include chiral molecules without chiral centre.

##### Unit 3.2

- OMC include basic catalytic cycle
- Discuss lithium dialkylcuprates in Michael Addition.

##### Unit 4.2

- Include Woodward Hoffman rules

#### Semester VI: SMSCHE603

**Unit 1.2**

- Include Beer Lambert's Law.

**Unit 2.1**

- For continuity do configurations before conformations
- Include stereospecificity, stereoselectivity and topicity
- Include Addition of HX.

**Unit 4.1**

- Use IUPAC names of polymers

**Unit 4.2**

- Heterocyclic compare electronegativity and  $\lambda_{max}$ .

**Practicals**

- Include TLC as purification method.
- Name could be changed to Practical Laboratory Course in Separation Techniques

**References**

- Some of the books to be included
  - Solomon Fryle
  - Clayden
- Remove Morrison Boyd, Finar

**Paper IV**

**Semester V SMSCH504**

**Unit 3.3**

- Remove turbidimetry and nephelometry.
- Introduce HPTLC, include counter currents and hyphenated techniques.
- During Practical time show videos on GC, HPLC etc.

**Semester VI SMSCH604**

**Unit 1.1**

- Include Limiting reagents concept in chemical calculations.

**Unit 2.1**

- Number of lectures used for discussing DME to be reduced as it is no longer used.

**Unit 3.1**

- Solvent extraction should be discussed prior to Chromatography.

**Practicals**

- Response surface methodology (change multiple variables together) can be included as a dry experiment.
- Refer to the Indian Pharmacopoeia for experiments.

**Reference**

- Some of the books to be included
  - Advanced Chemistry by Chatwal.

**Applied Component**

**Semester V SMSAPC501**

**Unit 1.2**

- Change the terms to oral and systemic instead of oral and parental.

**Unit 2.6**


- Remove Codeine phosphate
- Cut down the synthesis and include metabolism

**Reference**

- Some of the books to be included
  - Physical Pharmacy by Mattee

**Assessment and Evaluation**

- Only 30% of the paper should be state and explain.

  
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