



AQAR 2021-22

1.1 Curriculum Design and Development

1.1.2 Chemistry – Board of Studies



DEPARTMENT OF CHEMISTRY
St. JOSEPH'S COLLEGE (Autonomous)

*Accredited at A⁺⁺ Grade (4th Cycle) by NAAC Special Heritage Status awarded by UGC
College with Potential for Excellence by UGC DBT-STAR & DST-FIST sponsored College*

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Department of Chemistry
St. Joseph's College (Autonomous)-Tiruchirappalli
Minutes of Board of Studies Meeting

Platform: Google Meet

18.05.2021

The board of studies meeting was held virtually through Google Meet on May 18, 2021, at 10 AM, the meeting started with a silent prayer. Dr. S. Joseph Selvaraj welcomed the gathering and introduced the subject experts and student member who participated in the board of studies meeting.

Subject Expert 1: Dr. Karvembu
Professor of Chemistry
National Institute of Technology
Tiruchirappalli

Subject Expert 2: Dr. Saravanan
Associate Professor of Chemistry
National College (Autonomous)
Tiruchirappalli.

Industrial Expert: Dr. Thiayagarajan Saravanan
Regional manager
Metro-Ohm India Ltd.

Student Representative: Mr. X. Joe Sam
Research Scholar
Indian Institute of Technology, Kanpur.

The undergraduate, two value added courses and post graduate syllabus was presented to all the members and they suggestions are given below.

* - No Corrections suggested

UG			
Semester	Code	Course title	Comments by external members
I	21UCH13CC01	CORE-1 General Chemistry – I	Mr. Joe Sam suggested that in Unit I it should be mentioned as particle in a 1D box.
	21UCH13CC02	CORE-2 Organic Chemistry – I	Dr. Karvembu SN1 and SN2 reactions may be included
I and II	@	CORE @: Chemistry Practical-I	*
	@	CORE @: Chemistry Practical-II	*
II	21UCH23CC03	CORE-3: General Chemistry – II	*
I and II	21UCH23CP01	CORE-4: Chemistry Practical-I	*
	21UCH23CP02	CORE-5: Chemistry Practical-II	*
III	21UCH33CC04	CORE – 6: General Chemistry – III	*
	21UCH33CC05	CORE – 7: Organic Chemistry – II	Dr. Karvembu suggested that in unit- V the text should be corrected as Pd-mediated cross coupling.
III and IV	@	CORE – @: Chemistry Practical-III	*
III	21UPH33AC01 (For B.Sc. Physics)	ALLIED: CHEMISTRY-I	Mr. Joe Sam suggested that Birch reduction should be included in the method of preparation of alkenes. Dr.Paul Angelo and Dr. Karvembu suggested that Unit-IV could be replaced with topics like polymer chemistry.
III	21UCH34SE01A 21UCH34SE01B	SEC –1 Within Department (WD) 1A: Chemical Instrumentation – I 1B: Chemical Instrumentation – II	Dr. Karvembu suggested that Beer-Lambert's law could be incorporated in unit-I. Gas chromatography could be included in unit-V. Dr. Karvembu, and Dr. Saravanan suggested that the word instrumental separation should be removed from unit-IV.
IV	21UCH43CC06	CORE – 8: General Chemistry – IV	*
	21UCH43CC07	CORE – 9: General Chemistry – V	*
	21UCH43CP03	CORE – 10: Chemistry Practical – III	*

* - No Corrections suggested

		ALLIED -2(Optional) Botany/Physics (Theory + Practicals)	*
	21UCH44SE02A 21UCH44SE02B	SEC -2 Between Schools 2A: Health Chemistry 2B: Industrial Chemistry	*
V	21UCH53CC08	CORE-11: Inorganic Chemistry – I	Dr. Karvembu suggested that MO theory should include δ and π MO.
	@	CORE @: Chemistry Practical-4 Gravimetry and Organic Preparation	*
	@	CORE @: Chemistry Practical-5	*
	21UCH53ES01A 21UCH53ES01B	Discipline Specific Elective-1: 1A: Organic Spectroscopy 1B: Organic Synthesis And Characterization	Dr. Karvembu suggested that in organic spectroscopy, application of UV-Vis and IR spectroscopy may be included. Block diagram may be included or removed from first three units.
	21UCH53ES02A 21UCH53ES02B	Discipline Specific Elective-2: 2A: Physical Chemistry I 2B: Physical Chemistry II	Dr. Karvembu suggested that in Physical Chemistry I, unit-III, the text could be corrected as Conc. Cells with and without transference In Physical Chemistry II specific methods of preparation of nanomaterials could be given.
V		Internship (3 weeks during summer holidays after IV semester)	*
	21UCH53SP01	Self-paced learning: Essentials of Chemistry	Dr. Karvembu suggested that in unit-V Oppenauer oxidation should be included.
	21UCH53FV01	Field study/ Industrial visit/ Case study	*
		SEC -3 Soft Skill	*
	21UCH54EG01A 21UCH54EG01B	Generic Elective (BS)-1 1A: Chemistry for Competitive Examinations 1B: Everyday Chemistry	Mr. Joe Sam suggested that in Chemistry for Competitive Examinations, in unit-V, Anticancer drugs may be included Dr. Irudaya Jothi and Dr. Karvembu noted that contents of the health chemistry and everyday chemistry are similar and it should be modified.
VI	21UCH63CC09	CORE-12: Chemistry of Biomolecules	*
	21UCH63CP04	CORE-13: Chemistry Practical-4	*

* - No Corrections suggested

		Gravimetry and Organic Preparation	
	21UCH63CP05	CORE-14: Chemistry Practical-5	*
	21UCH63ES03A 21UCH63ES03B	Discipline Specific Elective-3 3A: Inorganic Chemistry-II 3B: Inorganic Chemistry-III	*
	21UCH63ES04A 21UCH63ES04B	Discipline Specific Elective-4 4A: Physical Chemistry III 4B: Physical Chemistry IV	Dr. Paul Angelo and Dr. Karvembu suggested that in Physical Chemistry III, unit-III should be renamed as Adsorption and Catalysis.
	21UCH63PW01	Project Work	*
	21UCH63CE01	Comprehensive Exam	*
	21UCH64SE04A 21UCH64SE04B	SEC -4 Within School (WS) 4A: Trends In Chemistry 4B: Advances In Chemistry	*
VI	21UCH64EG02A 21UCH64EG02B	Generic Elective (BS)-2 2A: Food And Nutrition 2B: Waste Management	*

* - No Corrections suggested

PG			
Semester	Code	Course title	Comments by external members
I	21PCH1CC01	CORE – 1: Inorganic Chemistry–I	Dr. Karvembu suggested that coordination chemistry should be started in Semester I.
	21PCH1CC02	CORE –2: Physical Chemistry–I	*
	21PCH1CP01	CORE –3: Inorganic Chemistry Practical–I	*
	21PCH1CP02	CORE –4: Physical Chemistry Practical–I	*
	21PCH1ES1A/1B	DSE–1(core elective): DSE–1A: Organic Chemistry I (Or) DSE–1B: Stereochemistry	Mr. Joe Sam suggested that Newmann projection of cyclohexane and decalins could be included in stereochemistry.
	21PCH1AE01	AEC : Analytical Techniques	*
II	21PCH2CC03	CORE –5: Inorganic Chemistry–II	Dr. Karvembu suggested that coordination chemistry should be started in Semester I and II.
	21PCH2CC04	CORE –6: Organic Chemistry–II	*
	21PCH2CP03	CORE –7: Inorganic Chemistry Practical–II	*
	21PCH2CP04	CORE –8: Physical Chemistry Practical–II	*
	21PCH2SP01	Self Paced Learning : Selected Topics in Chemistry	*
	21PCH2ES2A/2B	DSE–2A (Inter disciplinary): Spectroscopy and Group Theory	*
	21PSS2SE01	SEC–1 Soft skill	*
II	21PCH2EG01	Generic Elective–1(WS): Industrial Products	*
		Extra Credit courses (MOOC)–1	*
III	21PCH3CC05	CORE –9: Inorganic Chemistry– III	Dr. Karvembu suggested that in unit-IV spin crossover phenomenon may be included.
	21PCH3CC06	CORE –10: Organic Chemistry–III	Mr. Joe Sam suggested that Oxidation tert. allylic alcohol may be included.
	21PCH3CC07	CORE– 11: Physical Chemistry – II	*
	21PCH3CP05	CORE –12: Organic Chemistry Practical– I	*
	21PCH3ES3A/3B	DSE–3 (core elective): 3A: Bioorganic Chemistry (OR) 3B: Pharmaceutical Chemistry	*

* - No Corrections suggested

	21PCH3EG02	Generic Elective-2 (BS) Health Science	*
		Extra Credit courses (MOOC)-2	*
	21PCH4CC08	CORE -13: Inorganic Chemistry-IV	*
	21PCH4CC09	CORE -14: Organic Chemistry-IV	*
	21PCH4CC10	CORE -15: Physical Chemistry - III	*
	21PCH4CP06	CORE -16: Organic Chemistry Practical- II	*
	21PCH4ES4A/4B	DSE-4 (core elective): DSE 4A: Selected Topics In Inorganic And Physical Chemistry- I DSE 4B:Selected Topics In Chemistry	*
	21PCH4PW01	Project work & Viva-Voce	*
	21PCH4CE01	Comprehensive Exam	*

Over all suggestions given by experts

Subject Expert 1: Dr. Karvembu

He observed that the PG inorganic syllabus should be rearranged to start coordination chemistry in semester I and continue it in semester II with the inclusion of organometallic compounds, it would facilitate the students who appear for competitive examination like CSIR. He insisted that catalysis and reaction mechanism may be included in organometallic chemistry in semester II. He also suggested that elementary topics already dealt in UG should not be dealt again in detail PG as it would amount to repetition. Instead the focus should be given to advanced topics like inorganic spectroscopy. He noted that UG syllabus appears good in content hence may be carried on without much rearrangement.

Subject Expert 2: Dr. Saravanan

He noted that more recent reference books can be included in both UG and PG syllabus.

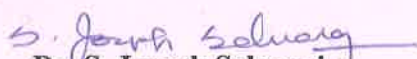
Industrial Expert: Dr. Thiayagarajan Saravanan

He observed that more industry oriented topics may be included in order equip students to face interviews with confidence.

Student Representative: Mr. X. Joe Sam,

He pointed that tautomerism (in imine bond) apart from keto-enol tautomerism and topics related to C-H activation may be included PG organic chemistry syllabus. In PG physical chemistry syllabus 2nd order perturbation may be included in perturbation theory.

The meeting concluded with a vote of thanks proposed by Dr. A.N. Paul Angelo, Dean of Physical Sciences, he thanked all the external members and faculty for their valuable suggestions.


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Head of the Department

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