MINUTES OF THE ELEVENTH BOARD OF STUDIES MEETING

Faculty: Basic and Applied Sciences **Board: Chemistry**

The Meeting of Board of Studies (BoS) was held as given below:

Name of the Body	**BoS**
Department	**Chemistry**
Meeting No.	**11**
Date and Time	**05.08.2022 @ 10.00 a.m.**
Venue	**Room No A1 416**
Members Attended	**The details are given in the ANNEXURE –I**

AGENDA	
1.	Discussion on UG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
2.	Discussion on UG syllabus for Part III - Core Course for first semester 2022-23 Batch
3.	Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Physics
4.	Discussion on syllabi for Part III - Inter Disciplinary Course (IDC) offered to Department of Biochemistry, Biotechnology and Food Science and Nutrition
5.	Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by Language department for 2022-23 Batch
6.	Discussion on Part II (English) offered by English department for 2022-23 Batch
7.	Discussion on Part IV (AECC) Environmental Studies for 2022-23 Batch offered by Department of Microbiology
8.	Discussion on credits for Part V Extension Activity for 2022-23 Batch
9.	Discussion on PG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
10.	Discussion on PG syllabi for first semester courses 2022-23 Batch
11.	Discussion on PG DSE syllabi for first semester courses 2022-23 Batch
12.	Discussion on Value Added Certificate Courses (VACC)
13.	Any other matter

MINUTES OF THE ELEVENTH BOARD OF STUDIES MEETING

Faculty: Basic and Applied Sciences **Board: Chemistry**

The Chairman of BoS welcomed all the Panel members for the meeting. The items listed in the agenda were taken for discussion.

The following are the minutes of the meeting:

Item - 01	**Discussion on UG Curriculum for AY 2022-23 and onwards adopting R4 guidelines**
Discussion	Under regulation R4, UG Curriculum for AY 2022-23 have been designed and presented for discussion.
Resolution	The Board unanimously approved the curriculum.
Item - 02	**Discussion on UG syllabus for Part III - Core Course for first semester 2022-23 Batch**
Discussion	**222CE1A1CA - Fundamentals of Chemistry (New Course)** As per the suggestions of Dr. R. Nandhakumar and Dr.R.Prabhakaran the content has been modified accordingly. • Unit I: Hund's rule, Aufbau principle topics were added as required basic topics. • Unit II: Basic concept of resonance topic was removed due to less relevant to the content of the unit. • Unit III: Derivation of gas laws-Boyle's law-Charle's law- Avogadro's Law-Ideal gas equation-Graham's Law of diffusion-Dalton's Law of Partial pressure topics were added as required basic topics. • Unit V: Alkanes, free radicals and conformation topics were removed due to less relevant to the content of the unit.
Resolution	The Board unanimously approved the above syllabus

Item - 03	**Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Physics**
Discussion	**222PY1A1IP- Modern Physics with Practical (New Course)** The syllabus approved by the Board of Studies in Physics was placed for endorsement.
Resolution	The Board unanimously approved the above syllabus

Item - 04	**Discussion on syllabi for Part III - Inter Disciplinary Course (IDC) offered to Department of biochemistry, Biotechnology and Food Science and Nutrition**
Discussion	**222CE1A1IA– IDC CHEMISTRY FOR BIOLOGISTS (New Course-Biochemistry and Food Science and Nutrition)** Dr. Shubashini K. Sripathi and Dr. R. Prabhakaran have suggested to reduce the following content. • Unit III: Structure of CH_4, NH_3, H_2O, shapes of $BeCl_2$, BF_3, based on VSEPR theory and hybridization topics were removed as the content of the unit was studied in higher secondary. • Unit IV: Electron displacement effect in organic compounds - Inductive effect -Electromeric effect - Resonance effect, Hyperconjugation and Steric effect were removed as it is not relevant to the unit. • Unit V: Derivation of rate expression for I and II order kinetics topics were removed due to the level of content is high for the other major students. **222CE1A1IB– IDC CHEMISTRY FOR BIOLOGISTS (New Course-Biotechnology)** • Unit IV: Electron displacement effect in organic compounds - Inductive effect -Electromeric effect - Resonance effect, Hyperconjugation and Steric effect were added.
Resolution	The Board members approved the above the syllabus.

Item - 05	**Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by Language Department for 2022-23 Batch**
Discussion	**221TL1A1TA/ 221TL1A1HA /221TL1A1FA /221TL1A1MA: Part I:Tamil-I: Ikkala Illakiyam / Hindi-I:Modern Literature /French-I:Grammar, Translation and Civilization / Malayalam – I:Modern Literature respectively (New Course)** The unified syllabi approved by the Board of Studies in Languages were placed for endorsement.
Resolution	The Board unanimously approved the syllabi.

Item - 06	**Discussion on Part II (English) offered by English Department for 2022-23 Batch**
Discussion	**221EL1A1EA : Part II: Professional English I (New Course)** The unified syllabus approved by the Board of Studies in English was placed for endorsement.
Resolution	The Board unanimously approved the syllabus.

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Item - 07	Discussion on Part IV (AECC) Environmental Studies for 2022-23 Batch
Discussion	223MB1A1AA: Environmental Studies (New Course) The unified syllabus approved by the Board of Studies in Microbiology was placed for endorsement.
Resolution	The Board members approved the syllabus.

Item - 08	Discussion on credits for Part V Extension Activity for 2022-23 Batch
Discussion	One credit to be awarded for participation in Extension activity like YRC/NCC/NSS/ RRC/Yoga/Sports/Clubs
Resolution	The Board unanimously approved one credit for Extension activity

Item – 09	Discussion on PG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
Discussion	Under regulation R4, PG Curriculum for AY 2022-23 has been designed and was presented for discussion.
Resolution	The Board unanimously approved the curriculum.

Item – 10	Discussion on PG syllabi for first semester courses 2022-23 Batch
Discussion	The content of the course of I semester of M.Sc. Chemistry Batch: 2022 – 23 were discussed in the board. **222CE2A1CA ORGANIC REACTION MECHANISMS (New course)** As per Dr. R. Nandhakumar and Dr. Shubashini K. Sripathi suggestion the following changes adopted, • Unit I: Effect of hydrogen bonding, Intra and inter molecular hydrogen bonding and on physical and chemical properties. Effects of structure and medium on the strengths of acids and bases topics were removed as the basics were already studied during their UG programme. • Unit II: Linear free energy relationship – limitations and deviations topics were removed due to lack of continuation in the content. • Unit III: Hydrolysis of esters - Wurtz reaction, Ziegler alkylation, insertion reactions, carbenes and nitrenes- structure and generation-addition reaction with alkenes- insertion reactions topics were removed as the content is discussed in other reactions. • Unit IV: Typical reactions involving migration of double bond, decarboxylation of aliphatic acids – Friedel Crafts acylation of olefinic carbon, Jacobsen reaction, Reimer - Tiemann reaction- Kolbe Schmidt reaction) -amidation with isocyanates - hydroxyalkylation (hydroxyalkyl - dehydrogenation) haloalkylation -

Cont…

aminoalkylation and amido alkylation - thioalkylation -acylation Hoesch reaction - cyanation - hydroxylation topics were removed as the content has less weightage for PG programme

- Unit V: 1, 3 dipolar additions, hydration of olefines. Mannich reaction - Grignard reactions - Aldol – Claisen, Thorpe and benzoin condensations - Cannizarro reaction dehydration of alcohols - dehydrohalogenation topics were removed because of repetition of same type of reactions.

222CE2A1CB - Coordination Chemistry (New course)

As per Dr.R.Prabhakaran and Dr. R. Nandhakumar suggestion the following changes made

- Unit V: IR and Raman Spectroscopy were removed as it is covered as a part in other PG course.
- Unit I-IV: Unit contents were shuffled for sequence of the contents in the course.

222CE2A1CC - THERMODYNAMICS AND KINETICS (New course)

As per Dr.R.Prabhakaran and Dr. Shubashini K. Sripathi suggestion the following Changes were carried out.

- Unit I: General review of enthalpy, entropy and free energy concepts - second law of thermodynamics - concept of entropy - Gibbs function were removed since the topics were studied in UG programme. Fugacity - Determination of fugacity of gases by graphical method and from equations of state – Variation of fugacity with temperature- Fugacity (or activity) coefficient were added as the continuation of the topic.
- Unit II: Phenomenological laws and Onsager Reciprocal relations - conservation of mass and energy in closed and open system- entropy production in heat flow and chemical reactions-entropy production and entropy flow in open systems - Principles of microscopic reversibility - Onsager's theory - validity and its verification were added as the continuation of unit-I
- Unit III: Unit –II and Unit-III were shuffled and required contents were added
- Unit IV: Basics and repetitive contents were removed
- Unit V: Repetitive contents were removed and required contents were added

222CE2A1CD Analytical Techniques (New course)

As per Dr.R.Prabhakaran and Dr. R. Nandhakumar suggestion the following Changes were carried out.

- Unit I: Polynomial equation, test for an outlier, testing variances, means t-Test, paired t-Test – analysis of variance (ANOVA) – correlation and regression. Curve fitting, fitting of linear equations, simple linear cases, weighted linear case, fitting,

Cont…

	linearizing transformations, exponential function fit – r and its abuse – multiple linear regression analysis, and elementary aspects were removed as the content of the unit are research oriented. • Unit II: GC-FID, GC-ECD and GC-PFPD topics were added to update the content. • Unit III: Difference between AAS and FES Basic aspects of synchronous spectral hole burning - flow cytometry - fluorometers quantization) – instrumentation – applications were removed as the content of the unit are not required for the course. • Unit IV: Isotopic dilution methods - neutron activation analysis – Radiometric titrations - applications were removed due to less relevant to the content of the unit. • Unit V: Electrochemical sensors, -selective field effect transistors (ISFETs) oscillographic polarography, chronopotentiometry -advantages – controlled potential coulometry - estimation of lead. Basic principles of coulometry principle coulometry at controlled potential-coulometry at constant currentcoulometric titrations-advantages and applications were removed as the content of the unit are research oriented .
Resolution	The Board unanimously approved the revised syllabus.
Item – 11	**Discussion on PG DSE syllabi for first semester courses 2022-23 Batch**
Discussion	**222CE2A1DA-Advanced Polymer Science And Technology (New Course)** **222CE2A1DB-Inorganic Materials For Industrial Applications (New Course)** **222CE2A1DC-Green Organic Synthesis (New Course)** The Course content of the above three DSE courses were discussed
Resolution	The Board members approved the syllabi for the above three courses.
Item – 12	**Discussion on Value Added Certificate Courses (VACC)**
Discussion	The VAC courses entitled Basis of Water And Waste Water Treatment to be offered by internal faculty and Paint and Coating Technology offered by the industry were discussed
Resolution	The Board members approved the syllabi for the above two courses.
Item – 13	**Any other matter**
Discussion	The board members discussed and recommended a Panel of Examiners
Resolution	The Board unanimously approved the Panel of Examiners

The Chairman of Board of Studies (BoS) thanks all the members for their active participation and providing their valuable suggestions.

Date: 05.08.2022

(Dr. M. Suganthi)
BoS Chairman/HoD
Department of Chemistry
Dr. N. G. P. Arts and Science College
Coimbatore – 641 048

Dr.NGPASC
COIMBATORE |INDIA

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B.Sc.
SYLLABUS REVISION

Name of the faculty: BAS
Semester: I
Board: Chemistry
Course Code/Name: 222CE1A1CA- **Fundamentals of Chemistry**

Unit	Existing	Changes
I	**Atomic Structure** Rutherford atomic model – Bohr theory of hydrogen atom – Sommerfeld theory – Particle and wave character of electrons – de Broglie's equation – Davisson- Germer experiment - Heisenberg's uncertainty principle - Compton effect – Schrödinger wave equation – Eigen values and Eigen functions – quantum numbers – Pauli's exclusion principle –Orbits and Orbitals.	Hund's rule, Aufbau principle.
II	**Chemical Bonding** Types of bonds – ionic, covalent, coordinate and metallic bonds - condition for the bond formation - concept of hybridization – hybridization involving s-, p- and d orbital – properties of ionic, covalent and coordinate compounds – valence bond theory –VSEPR theory. Molecular orbital theory – molecular orbital configurations of simple homo nuclear and hetero nuclear diatomic molecules – comparison between VBT and MOT – ~~basic concept of resonance.~~	
III	**Gaseous State** Kinetic theory of gases – Maxwell's distribution of molecular velocities (derivation not needed) – collision diameter – collision number, collision frequency – mean free path – real and ideal gases – van der Waal's equation. Various units of expressing concentrations of solutions – solutions of liquid in liquids – ideal and non-idealsolutions – Raoult's law – vapour pressure of non ideal solutions – vapor pressure composition and boiling point composition curves – fractional distillation of binary liquid solutions – steam distillation – solutions of gases in liquid.	Derivation of gas laws-Boyle's law-Charle's law- Avogadro's Law-Ideal gas equation-Graham's Law of diffusion-Dalton's Law of Partial pressure
IV	**Thermodynamics -I** Definition- System, surroundings, isolated system, open system and closed systems, extensive and intensive properties, Types of process. First law of thermodynamics-Internal energy, internal energy and first law. State function and path function, exact and inexact differentials, enthalpy of system, enthalpy of vaporization, enthalpy of fusion, heat capacity of a system, relation between Cp and Cv in gaseous system. Joule Thomson effect, Joule Thomson coefficient and inversion temperature. ~~Thermo chemistry~~ Heat of neutralization, heat of solution, heat of combustion, Kirchoff's equation- Flame and explosion temperature, Bomb calorimeter-measuring enthalpy of combustion, Hess's law- Bond energy- calculations of bond energy.	
V	**Alkanes, free radicals and conformation** Nomenclature of alkanes, preparation, properties, reaction. Free radicals-formation- structure, stability- reactivity. Conformation of ethane, butane and cyclohexane - Baeyer's strain - equatorial and axial bonds- 1,3 – diaxial strain- conformation and reactivity – conformation of mono and dimethyl cyclohexane.	**Basic Organic Chemistry:** Electronic displacements: Inductive effect, electromeric effect, resonance hyperconjugation and steric effect. Strength of organic acids and bases - factors affecting pK values. Cleavage of bonds: homolysis and heterolysis. Reactive intermediates: Structure and stability of carbocations, carbanions and free radicals.

Percentage of Syllabus revised: 40 %
Course Focus on:

☑	Skill Development	☐	Entrepreneurial Development
☑	Employability	☐	Innovation
☐	Intellectual Property Right (IPR)		

B.Sc.
SYLLABUS REVISION

Name of the faculty: BAS
Semester: I
Board: Chemistry
Course Code/Name: 222PY1A1IP/**Modern Physics With Practical**

Unit	Existing	Changes
I	~~Ohm's law—Kirchoff's laws—Applications of Krichhoff's laws to Wheatstone's network—condition for balance~~ Carey-Foster's bridge – ~~measurement of resistance—measurement of specific resistance—determination of temperature coefficient of resistance—Potentiometer—~~ calibration of Voltmeter	Types of capacitors - Spherical capacitor - Cylindrical capacitor - Calibration of Ammeter
II		Ionic crystals - Covalent crystals - Metallic bond - Band theory of solids - Tunnel diodes - Energy bands - Superconductivity - Bound electron pairs - Hall effect - Experimental determination of hall coefficient
III	Interference – conditions for interference maxima and minima – Air wedge – thickness of a thin wire – Newton's rings – determination of wavelength using Newton's rings. Diffraction – Difference between diffraction and interference – Theory of transmission grating – normal incidence	Interference in thin film
IV	~~Semiconductor—PN junction diode—V-I characteristics of a Junction diode—Zener diode—Regulated power supply~~ - Bridge rectifier. ~~Transistor—Working of an NPN transistor—Common Emitter characteristics of a Transistor~~ – current gain - ~~Applications of Transistor.~~	Band gap determination using post office box –Transistor characteristics in common base and common emitter mode - Transistor single stage amplifier- Expression for input impedance - output impedance
V	~~Number system—Binary—Octal and Hexadecimal system—conversion of one number system to another number system—Binary addition, subtraction. Logic gates—OR, AND, NOT, XOR, NAND and NOR gates—truth tables—~~ Half adder and Full adder ~~—Laws of Boolean's algebra—De Morgan's theorems.~~	1's and 2's complement of a binary number and binary arithmetic - Steps in the fabrication of Monolithic IC's – General applications of IC's - Registers - Flip flops - JK flip flops

Percentage of Syllabus revised: 64 %
Course Focus on:

☑	Skill Development	☐	Entrepreneurial Development
☑	Employability	☐	Innovation
☐	Intellectual Property Right (IPR)		

B.Sc .

SYLLABUS REVISION

Name of the faculty: BAS
Semester:I

Board: Chemistry
Course Code/Name: 222CE1A1IA– **IDC Chemistry For Biologists**

Unit	Existing	Changes
I	Unit I ~~Coordination Chemistry and Fertilizers~~ ~~Coordination Chemistry:~~ ~~Nomenclature, Theories of Werner, Sidge-Wick, Pauling, Chelation examples, Haemoglobin, Chloropyll. Applications in qualitative and quantitative analysis of EDTA.~~ ~~Fertilizers:~~ ~~Urea, ammonium sulphate, ammonium Nitrate, Potassium Nitrate, NPK, fertilizer, Triple Superphosphate, Pollution of air, Water and Soil-sources, remedies.~~	Solutions Normality, molarity, molality, mole fraction, mole concept. Primary and secondary standards – preparation of standard solutions. Principle of Volumetric analysis (with simple problems). Indicators – Theory of indicators- Oswald and quinonoid theory.
II	**Unit II** ~~Chemical Bonding~~ ~~Molecular Orbital Theory- bonding, anti-bonding and non-bonding orbitals. MO configuration of H_2, N_2, O_2, F_2- bond order – diamagnetism and paramagnetism.~~ ~~Ionic Bond: Nature of ionic bond, structure of NaCl and CsCl, factors influencing the formation of ionic bond.~~ ~~Covalent Bond: Nature of covalent bond, structure of CH_4, NH_3, H_2O, shapes of $BeCl_2$, BF_3, based on VSEPR theory and hybridization.~~	Acids and Bases Acid base theories – Strength of acids andbases – Equilibrium constant and ionic constant of water- pH, pKa, pKb, Buffer solution, pH and pOH simple calculations.
III	**Unit III** ~~Basic Organic Chemistry~~ ~~Electron displacement effect in organic compounds – Inductive effect- Electromeric effect – Resonance effect, Hyperconjugation and Steric effect.~~ ~~Isomerism, Symmetry of elements (Plane, Centre and Axis of symmetry), Molecules with one chiral carbon and two adjacent chiral carbons – Optical isomerism of lactic acid and tartaric acid, Enantiomers, Diastereomers – Separation of racemic mixture~~ ~~Geometrical isomerism (maleic and fumaric acid). R/S and E/Z configuration assignments for simple molecules.~~	**Unit III** Types of bonding - Ionic Bond: Nature of ionic bond, factors influencing the formation of ionic bond, Covalent and coordinate bond- Molecular Orbital Theory- MO- configuration of H2, N2, O2 - bond order– diamagnetism and paramagnetism.
IV	**Unit IV** Solutions ~~Normality, molarity, molality, mole fraction, mole concept. Primary and secondary standards – preparation of standard solutions. Principle of Volumetric analysis (with simple problems). Indicators – Theory of indicators- Acid base and quinonoid. Strong and weak acids and bases – Ionic product of water- pH, pKa, pKb, Buffer solution, pH and pOH simple calculations.~~	**Unit IV** Stereo Chemistry Isomerism, Structural isomerism- Symmetry of elements (Plane, Centre and Axis of symmetry), Optical isomerism of lactic acid and tartaric acid, Enantiomers, Diastereomers – Separation of racemic mixture. Geometrical isomerism (maleic and fumaric acid). R/S and E/Z configuration assignments for simple molecules.
V	**Unit V** Chemical Kinetics and Catalysis Rate of reaction, rate law, order, molecularity, first order rate law, half-life period of first order equation, pseudo first order reaction, zero and second order reactions. ~~Derivation of rate expression for I and II order kinetics.~~ Catalysis – homogenous, heterogeneous and enzyme catalysis (definition only), enzymes used in industry, characteristics of catalytic reactions	

Percentage of Syllabus revised: 50%
Course Focus on:

☑	Skill Development	☐	Entrepreneurial Development
☑	Employability	☐	Innovation
☐	Intellectual Property Right (IPR)		

Faculty: BAS **Syllabus Revision**

Semester: I **Board: Chemistry**

Course Code/ Name: 22ITL1A1TA / PART – I - TAMIL - I: Ikkala Ilakkiyam

Unit	Existing	Changes
I	1. உயிர் பெற்ற தமிழர் பாட்டு - பாரதியார் 2. படி - பாரதிதாசன் 3. போராட்டப் புறப்பட்டோம் - தமிழ் ஒளி 4. தமிழ்க் கொலை புரியாதீர் - புலவர் குழந்தை 5. திரைத்தமிழ்: அ)சும்மா கிடந்த நிலத்தை - எனத் தொடங்கும் பாடல் - பட்டுக்கோட்டை கல்யாண சுந்தரனார். ஆ) சமரசம் உலாவும் இடமுமே - எனத் தொடங்கும் பாடல் - மருதகாசி. இ) உன்னை அறிந்தால் - எனத் தொடங்கும் பாடல் – கண்ணதாசன்.	இலக்கிய வரலாறு - மறுமலர்ச்சி கவிஞர்களின் தமிழ்ப்பணிகள் பாரததேசம் - பாரதியார் தமிழரின் பெருமை - நாமக்கல் கவிஞர் திரைத் தமிழ் : விஞ்ஞானத்த வளர்க்கப் போறண்டி – உடுமலை நாராயணகவி
II	1. கடமையைச் செய் - மீரா 2. அம்மாவின் பொய்கள் - ஞானக்கூத்தன் 3. செருப்புடன் ஒரு பேட்டி - மு.மேத்தா 4. சிங்கவால் குரங்கின் மரணம் - சிற்பி 5. கடல்கோள் 2004 - முத்தமிழ் விரும்பி 6. கரிக்கிறது தாய்ப்பால் - ஆரூர் தமிழ்நாடன் 7.ஐந்தாம் வகுப்பு 'அ' பிரிவு - நா. முத்துக்குமார் 8. ஹைகூ கவிதைகள் - 15 கவிதைகள்	இலக்கிய வரலாறு - புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும் ஒப்பிலாத சமுதாயம் - அப்துல் ரகுமான் கன்னிமாடம் - மு.மேத்தா மலையாளக் காற்று - சிற்பி
III	1. ஒரு கதவும் கொஞ்சம் கள்ளிப்பாலும் - தாமரை 2. நீரில் அலையும் முகம் - அ. வெண்ணிலா 3. தொட்டில் செய் - இளம்பிறை 4. ஏனிந்த வித்தியாசங்கள் - மல்லிகா	தொலைந்து போனேன் - தாமரை தற்காத்தல் - பொன்மணி வைரமுத்து புதையுண்ட வாழ்க்கை - சுகந்தி சுப்ரமணியன்
IV	1. வேப்பமரம் - ந.பிச்சமூர்த்தி 2. அகல்யை - புதுமைப்பித்தன் 3. ஒருபிடி சோறு - ஜெயகாந்தன் 4. காய்ச்சமரம் - கி.ராஜநாராயணன் 5. நிராசை - பாமா 6. குதிரை மசால் தாத்தா - சு. வேணுகோபால்	இலக்கிய வரலாறு - சிறுகதையின் தோற்றமும் வளர்ச்சியும் கனகாம்பரம் - கு.ப.ராஜகோபாலன் ஆற்றங்கரைப் பிள்ளையார் - புதுமைப்பித்தன் பொம்மை - ஜெயகாந்தன் காட்டில் ஒரு மான் - அம்பை வேட்கை - சூர்யகாந்தன்
V	அ. இலக்கியவரலாறு 1. மறுமலர்ச்சி கவிஞர்களின் தமிழ்ப்பணிகள் 2. புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும் 3. சிறுகதையின் தோற்றமும் வளர்ச்சியும் ஆ.இலக்கணம்:1.வல்லினம் மிகும், மிகா இடங்கள் (ஒற்றுப்பிழை நீக்கி எழுதுதல்) 2. ர,ற,ல, ழ, ள,ண, ந,ன வேறுபாடு (ஒலிப்பு நெறி , சொற்பொருள் வேறுபாடு அறிதல்) இ. படைப்பாக்கப் பயிற்சி 1. கவிதை, சிறுகதை எழுதுதல்	இலக்கிய வரலாற்றுப் பகுதி அந்தந்த அலகுகளுக்குத் தகுந்தாற் போல் மாற்றி அமைக்கப்பட்டுள்ளது.

Percentage Of Syllabus Revised: 44 %

Course Focus On:

☑ Skill Development	☑ Entrepreneurial Development
☑ Employability	☑ Innovation
☐ Intellectual Property Right (IPR)	

Syllabus Revision

Faculty: BAS **Board: Chemistry**
Semester : I **Course Code/ Name: 221TL1A1HA/ PART – I - HINDI – I : Modern Literature**

Unit	Existing	Changes
I	गद्य – नूतन गद्य संग्रह (जय प्रकाश) पाठ 1- रजिया पाठ 2- मक्रील पाठ 3- बहता पानी निर्मला पाठ 4- राष्ट्रपिता महात्मा गाँधी	-
II	कहानी कुंज- डॉ वी.पी. 'अमिताभ'(पाठ 1-4)	-
III	व्याकरण : शब्द विचार (संज्ञा, सर्वनाम,~~कारक,~~विशेषण)	व्याकरण : शब्द विचार (संज्ञा, सर्वनाम,विशेषण)
IV	अनुच्छेद लेखन	-
V	अनुवाद अभ्यास-III (केवल अंग्रेजी से हिन्दी में) (पाठ 1 to 10)	-

PERCENTAGE OF SYLLABUS REVISED: 25 %

COURSE FOCUS ON:

- [x] Skill Development
- [x] Entrepreneurial Development
- [x] Employability
- [x] Innovation
- [ ] Intellectual Property Right (IPR)

Syllabus Revision

Faculty:BAS **Board:Chemistry**

Semester : I **Course Code/ Name: 221TL1A1FA / PART – I FRENCH – I: Grammar, Translation and Civilization.**

<table>
<tr><th>Unit</th><th>Existing</th><th>Changes</th></tr>
<tr><td>I</td><td>
<table>
<tr><th>Objectifs de Communication</th><th>Tâche</th><th>Activités de réception et de production orale</th></tr>
<tr><td>• Saluer
• Enter en contact
• avec quelqu'un.
• Se presenter.
• S'excuser</td><td>En cours
de cuisine,
premiers contacts
avec les members d'un groupe</td><td>• Comprendre des personnes qui se saluent.
• Échanger pour entrer en contact, se présenter, saluer, s'excuser.
• Communiquer avec tu ou vous.
• Comprendre les consignes de classe
• Épeler son nom et son prénom. Computer jusqu'à 10.</td></tr>
</table>
</td><td>-</td></tr>
<tr><td>II</td><td>
<table>
<tr><th>Objectifs de Communication</th><th>Tâche</th><th>Activités de réception et de production orale</th></tr>
<tr><td>• Demander de se presenter.
• Présenter quelqu'un.</td><td>Dans la classe de français, se presenter et remplir
une fiche pour le professeur.</td><td>• Comprendre les informations essentielles dans un échange en milieu professionnel.
• Échanger pour se presenter et présenter quelqu'un.</td></tr>
</table>
</td><td>-</td></tr>
<tr><td>III</td><td>
<table>
<tr><th>Objectifs de Communication</th><th>Tâche</th><th>Activités de réception et de production orale</th></tr>
<tr><td>• Exprimer ses gouts.</td><td>Dans un café,
participer
à une soirée
de rencontres
rapides et remplir
de taches
d'appréciation.</td><td>• Dans une soirée de recontres rapid comprendre des personnes qui échangent sur elles et sur leurs goût
• Comprendre une personne qui parler des goûts de quelqu'un d'autre.</td></tr>
</table>
</td><td>-</td></tr>
<tr><td>IV</td><td>
<table>
<tr><th>Objectifs de Communication</th><th>Tâche</th><th>Activités de réception et de production orale</th></tr>
<tr><td>• Présenter quelqu'un</td><td>Dans un café,
participer
à une soirée
de rencontres
rapides et remplir
de taches
d'appréciation</td><td>• Exprimer ses goûts.
• Comprendre une demande laissée sur un répondeur téléphonique.
• Parler de ses projets de week-end.</td></tr>
<tr><td colspan="3">Autoévaluation du module 1 Page 40 – Préparation au DELF A1 page 42</td></tr>
</table>
</td><td>
<table>
<tr><td>Demander à quelqu'un de faire quelque chose.
Demander poliment.
Parler d'actions passes.</td><td>Organiser un programme d'activités pour accueillir une personne importante.</td><td>Comprendre une personne demande un service à quelqu'un.
Demander à quelqu'un de faire quelque chose.Imaginer et raconter au passé à partir de situations dessinées.</td></tr>
<tr><td colspan="3">Tu veux bien? Page 46</td></tr>
</table>
</td></tr>
<tr><td>V</td><td>
<table>
<tr><td>~~Demander à quelqu'un de faire quelque chose.~~
~~Demander poliment.~~
~~Parler d'actions passes.~~</td><td>~~Organiser un programme d'activités pour accueillir une personne importante.~~</td><td>~~Comprendre une personne demande un service à quelqu'un.~~
~~Demander à quelqu'un de faire quelque chose. Imaginer et raconter au passé à partir de situations dessinées.~~</td></tr>
<tr><td colspan="3">~~Tu veux bien? Page 46~~</td></tr>
</table>
</td><td>Make in Own Sentences</td></tr>
</table>

PERCENTAGE OF SYLLABUS REVISED: 25%
COURSE FOCUS ON:

- ☑ **Skill Development**
- ☑ **Entrepreneurial Development**
- ☑ **Employability**
- ☑ **Innovation**
- ☐ **Intellectual Property Right (IPR)**

Syllabus Revision

Faculty: BAS **Board: Chemistry**

Semester : I **Course Code/ Name: 221TL1A1MA / PART – I - MALAYALAM – I : Modern Literature**

Unit	Existing	Changes
I	Novel : ~~Alahayude penmakkal~~	Novel : Pathummayude Adu
II	Novel : ~~Alahayude penmakkal~~	Novel : Pathummayude Adu
III	Short Story : Nalinakanthi	-
IV	Short Story : Nalinakanthi	-
V	~~Composition & Translation~~	Expansion of ideas, General Essay and Translation

Percentage Of Syllabus Revised: 50%

Course Focus On:

- ☑ Skill Development
- ☑ Entrepreneurial Development
- ☑ Employability
- ☑ Innovation
- ☐ Intellectual Property Right (IPR)

Syllabus Revision

Faculty: BAS **Board: Chemistry**

Semester: I **Course Code/ Name: 221EL1A1EA- Core Course: Professional English I**

PERCENTAGE OF SYLLABUS REVISED: 100%

COURSE FOCUS ON:

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability		Innovation
	Intellectual Property Rights (IPR)		

Syllabus Revision

Faculty: BAS
Semester: I

Board: Chemistry
Course Code/ Name: 223MB1A1AA –Environmental studies

Unit	Existing	Changes
I	Introduction to Environmental studies& Ecosystems: Multidisciplinary nature of environmental studies; components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance; Concept of sustainability and sustainable development. Ecosystem - Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession. ~~Case studies of the following ecosystems: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).~~	
II	Natural Resources: Renewable and Non-renewable Resources: Land Resources and land use change; Land degradation, soil erosion and desertification. Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Water: Use and overexploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). ~~Heating of earth and circulation of air; air mass formation and precipitation.~~ Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, ~~case studies.~~	
III	Biodiversity and Conservation: Levels of biological diversity: genetic, species and ecosystem diversity; Biogeography zones of India; Biodiversity patterns and global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. ~~Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.~~	
IV	Environmental Pollution, Environmental Policies & Practices: Environmental pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution. Nuclear hazards and human health risks. Solid waste management: Control measures of urban and industrial waste. Pollution case studies. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environment Laws: Environment Protection Act; Prevention & Control of Pollution Act – Air & Water. Wildlife Protection Act; Forest Conservation Act; ~~International agreements; Montreal and Kyoto protocols and conservation on Biological Diversity (CBD). The Chemical Weapons Convention (CWC). Nature reserves, tribal population and rights, and human, wildlife conflicts in Indian context.~~	
V	Human Communities and the Environment& Field Work : Human population and growth: Impacts on environment, human health and welfares. ~~Carbon foot-print. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquakes, cyclones and landslides. Environmental movements: Chipko, Silent valley, Bishnios of Rajasthan.~~ Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. Environmental communication and public awareness.~~case studies (e.g., CNG vehicles in Delhi).~~ Visit to an area to document environmental assets; river/forest/flora/fauna, etc. ~~Visit to a local polluted site –Urban/Rural/Industrial/Agricultural. Study of common plants, insects, birds and basic principles of identification. Study of simple ecosystems-pond, river, Delhi Ridge, etc.~~	Population explosion – Family Welfare Programmes Role of Information Technology in Environment and human health. Role of the Colleges, Teachers and Students in village adoption towards clean, green and make in villages in various aspects.

Percentage Of Syllabus Revised: 33 %
Course Focus On:

✓	Skill Development	☐	Entrepreneurial Development
☐	Employability	☐	Innovation
☐	Intellectual Property Rights (IPR)		

Dr.NGPASC
COIMBATORE |INDIA

M.Sc.
SYLLABUS REVISION

Name of the faculty: Dr.M.R.Ezhilarasi
Board: Chemistry
Semester:I
Course Code/Name: 222CE2A1CA Organic Reaction Mechanisms

Unit	Existing	Changes
I	Electronic Effects and Aromaticity ~~Acids and Bases~~ Electron displacement – Inductive and field effect – Delocalised bonds – Rules of resonance-steric inhibition of resonance, steric enhancement of resonance, Hyperconjucation – Hydrogen bonding – ~~Intra and inter molecular hydrogen bonding – effect of hydrogen bonding and hyperconjugation on physical and chemical properties. Effect of structure and medium on the strengths of acids and bases.~~ Aromaticity: Aromatic systems with 2, 6, 10 electrons, alternent and non-alternent hydrocarbons, systems of more than 10 electrons-annulenes-aromaticity of azulenes, ferrocene and sydnones - concept of homoaromaticity.	-
II	Methods of Determining Reaction Mechanisms ~~Mechanisms~~ Thermodynamic and kinetic requirements of reactions: Types of mechanism, Thermodynamic and kinetic control – methods of determination of reaction mechanisms – product analysis – determination of the presence of intermediate, isolation, detection, trapping – cross over experiments – isotopic labeling – isotopic effect ~~– stereo chemical evidence – kinetic evidence.~~ Kinetic methods of determination of reaction mechanisms: Curtin-Hammett principle, Hammett equation – significance of substitution and reaction constant – Hammond postulates ~~-Linear free energy relationship – limitations and deviations –~~ Taft equation.	-
III	Aliphatic and aromatic nucleophilic substitution reactions SN1, SN2, SNi and neighbouring group participations - kinetics - effects of structure - solvent and leaving and entering group - stereochemistry. ~~Hydrolysis of esters - Wurtz~~ reaction - Claisen and Dieckmann condensation - Williamson reactions. Different mechanisms of aromatic nucleophilic substitution - ~~Ziegler alkylation~~ - Chichibabin reaction - cine substitution - diazonium group as leaving group. ~~Carbenes and nitrenes-structure and generation-addition reaction with alkenes- insertion reactions.~~	SNAr and benzyne mechanism Chichibabin reaction - cine substitution -
IV	Aliphatic and Aromatic Electrophilic Substitution Reactions SE1 and SE2 reactions - mechanisms and reactivity - ~~typical reactions involving migration of double bond~~ - keto-enol tautomerism - halogenation of carbonyl compounds - Stork enamine reactions - ~~decarboxylation of aliphatic acids – Friedel Crafts acylation of olefinic carbon.~~ Aromatic electrophilic substitution - ~~reactivity -~~ orientation and mechanisms - nitration - halogenation and sulphonation - Friedel-Crafts alkylation - FriedelCrafts arylation (Scholl reaction) and acylation - ~~Jacobsen reaction~~ - Vilsmeyer- Haack reaction, Gattermann reaction, ~~Reimer – Tiemann reaction- Kolbe Schmidt reaction) - amidation with isocyanates – hydroxyalkylation (hydroxyalkyl – dehydrogenation)- Bradsher reaction and Bischler -~~ Napieralski reaction - ~~haloalkylation – aminoalkylation and amido alkylation – thioalkylation -acylation Hoesch reaction - cyanation – hydroxylation.~~	-
V	Addition and Elimination Reactions Addition to C-C and C-O multiple bonds - electrophilic, nucleophilic and free radical additions ~~- additions to conjucated systems –~~ orientation - Birch reduction - ~~hydroboration -~~ Michael addition- ~~1,3 dipolar additions –~~ Diels-Alder reactions - ~~hydration of olefines. Mannich reaction~~ - Meerwein-Pondorf reduction ~~-Grignard reactions – Aldol – Claisen~~ - Stobbe - ~~Darsen – Wittig~~ - ~~Thorpe and benzoin condensations – Cannizaro reaction.~~ Elimination reactions - E1 and E2 mechanisms - orientations - Hofmann and Saytzeff rules - elimination versus substitution - Chugaev reaction - Hofmann degradation and Cope elimination - ~~dehydration of alcohols – dehydrohalogenation –~~ mechanisms and orientation in pyrolytic elimination.	-

Percentage Of Syllabus Revised: 45 %
Course Focus On:

☑	Skill Development	☐	Entrepreneurial Development
☑	Employability	☐	Innovation
☐	Intellectual Property Right (IPR)		

M.Sc.
SYLLABUS REVISION

Name of the faculty: BAS
Semester: I

Board: Chemistry
Course Code/Name: 222CE2A1CB- Coordination Chemistry

Unit	Existing	Changes
I	**Theories of coordination compounds** ~~Theories of coordination compounds -~~VB theory - CFT - splitting of d orbitals in ligand fields and different symmetries - CFSE - factors affecting the magnitude of10 Dq - evidence for crystal field stabilization - spectrochemical series – site selection in spinels - tetragonal distortion from octahedral symmetry - Jahn-Tellerdistortion - Nephelauxetic effect – MO theory - octahedral - tetrahedral and square planar complexes -pi bonding and molecular orbital theory - ~~experimental evidencefor pi bonding.~~	-
II	**Reaction Mechanism in Coordination Complexes** ~~Substitution reactions in square planar complexes~~ - the rate law for nucleophilicsubstitution in a square planar complex - the trans effect - theories of trans effect -mechanism of nucleophilic substitution in square planar complexes - kinetics ofoctahedral substitution - ligand field effects and reaction rates - mechanism ofsubstitution in octahedral complexes - reaction rates influenced by acid and bases -racemization and isomerization - mechanisms of redox reactions - outer sphere mechanisms - excited state outer sphere electron transfer reactions - inner sphere mechanisms - ~~mixed-valent complexes.~~	
III	~~Electronic spectra and magnetism~~ ~~Microstates, terms and energy levels for d1 – d9 ions in cubic and square fields - selection rules - band intensities and band widths - energy level diagrams of Orgeland Tanabe - Sugano - spectra of Ti3+, V3+, Ni2+, Cr3+, Co2+, Cr2+ and Fe2+ -calculation of 10Dq and B for V3+ (oct) and Ni2+(oct) complexes - charge transfer spectra - magnetic properties of coordination compounds - change in magnetieproperties of complexes in terms of spin orbit coupling - temperature independentparamagnetism - spin cross over phenomena.~~	Structure of coordination complexes Complexes with coordination number two, three, four, five six, seven and eight. Site preference in trigonal bipyramidal and square pyramidal complexes - Isomerism in five coordinate complexes - Distortion from perfect octahedral symmetry - Trigonal prism - Geometrical isomerism in octahedral complexes
IV	~~**Structure of coordination complexes**~~ ~~Structure of coordination compounds with reference to the existence of various coordination numbers - complexes with coordination number two – complexes withcoordination number three – complexes with coordination number four -tetrahedral and square planar complexes - complexes with coordination number five - regular trigonalbipyramidal and square pyramidal – site preference intrigonalbipyramidal complexes – site preference in square planar complexes - isomerism in five coordinate complexes – coordination number six – distortion fromperfect octahedral symmetry - trigonal prism – geometrical isomerism in octahedralcomplexes - coordination number seven and eight.~~	Structure and bonding in Metal carbonyls Metal carbonyl complexes -Classification- synthesis - Structure and properties -18 electron and EAN rule- Nature of M-CO bonding- Binding mode of CO and IR spectra of metal carbonyls- Metal carbonyl hydrides -Metal nitrosyl complexes
V	~~**IR and Raman spectroscopy**~~ ~~Structural elucidation of simple molecules like N2O, ClF3, NO3-, ClO4- - effect of coordination on ligand vibrations – uses of group vibrations in the structural elucidation of metal complexes of urea, thiourea, cyanide, thiocyanate,~~ ~~nitrate,sulphate and DMSO – effect of isotopic substitution on the vibrational spectra of molecules – applications of Raman spectroscopy.~~	Electronic spectra and magnetism Microstates, terms and energy levels for d1 – d9 ions in cubic and square fields - selection rules - band intensities and band widths - energy level diagrams of Orgel and Tanabe - Sugano - spectra of V3+, Ni2+, Cr3+, Co2+, and Fe2+ - Calculation of 10Dq and magnetic moment for V3+ (oct) and Ni2+(oct) complexes - Charge transfer spectra - Change in magnetic properties of complexes in terms of spin orbit coupling - Temperature independent paramagnetism.

Percentage of Syllabus Revised: 55 %
Course Focus On:

- [x] Skill Development
- [ ] Entrepreneurial Development
- [x] Employability
- [ ] Innovation
- [ ] Intellectual Property Right (IPR)

M.Sc.

SYLLABUS REVISION

Name of the faculty: BAS
Semester: I

Board: Chemistry
Course Code/Name: 222CE2A1CC - Thermodynamics And Kinetics

Unit	Existing	Changes
I	Equilibrium Thermodynamics ~~General review of enthalpy, entropy and free energy concepts – second law ofthermodynamics – concept of entropy~~ - ~~Gibbs function~~ Gibbs- Helmholtz equationMaxwell relations - genesis of third law and its limitations-thermodynamics of systems of variable compositions-partial molar quantities and their determination -chemical potential - Gibbs-Duhem equation - Gibbs-Duhem-Margules equation -~~fugacity and its determination.Non-equilibrium thermodynamics – conservation of mass and energy-entropyproduction – entropy production in chemical reactions-entropy production andentropy flow in open systems – Onsager's theory – validity and its verification.~~	Fugacity - Determination of fugacity of gases by graphical method and from equations of state – Variation of fugacity with temperature- Fugacity (or activity) coefficient
II	Non-Equilibrium Thermodynamics Activity - mean ion activity and mean activity coefficient of electrolytes in solution -ion association - ionic strength - ion-atmosphere - Debye-Hückel theory and DebyeHückel limiting law - its validity and limitations - strong and weakelectrolytes -Debye theory of electrolytic conductance - Debye-Hückel-Onsagerequation -verification and limitations - electrode potentials, standard redoxpotentials -electrochemical cells-concentration cells - applications of standard redoxpotentials.	Phenomenological laws and Onsager Reciprocal relations - conservation of mass and energy in closed and open system- entropy production in heat flow and chemical reactions-entropy production and entropy flow in open systems - Principles of microscopic reversibility - Onsager's theory - validity and its verification.
III	Electrochemistry The electrical double layer - ~~polarizable and non polarizable interfaces – structureof electrical double layer – double layer models – Helmholtz, Guoy-Chapman and Stern models.~~ Kinetics of electrode processes - current-potential curve -ButlerVolmer relation and its approximations - ~~symmetry factor and transfer coefficient~~ – Tafel equation - charge transfer resistance - ~~Nernst equation from Butler-Volmer equation~~ - ~~primary and secondary batteries – fuel cells – corrosionand its prevention methods.~~	Unit III Electrochemistry Activity - mean ion activity and mean activity coefficient of electrolytes in solution - Debye-Hückel theory and limiting law - Debye-Hückel-Onsager equation -verification and limitations. The electrical double layer - Structure and models (Helmholtz, Guoy-Chapman and Stern)
IV	Chemical Kinetics -I ~~Basic kinetic concepts~~ - Theories of reaction rates-collision ~~theory~~ – transition State ~~theory – salt effect – temperature effects, Arrhenius equation, chemicalinterpretation of activation parameters, microscopic reversibility~~ - Lindemann, Hinshelwood, RRK, RRKM and Slater treatments - fast reaction kinetics - ~~Study of fast reactions~~ - stopped flow method - chemical relaxation method.	
V	Chemical Kinetics -II Homogenous catalysis - ~~activation barrier~~ - Hammett acid-base catalysis - ~~rate of acid and base catalysis~~ - acidity function. Enzyme catalysis: ~~Brief introduction on enzymes – advantages~~ – Michaelis -Menton kinetics -Lineweaver Burk plot - ~~enzymatic inhibitor.~~ Heterogenous catalysis: ~~Adsorption, physisorption and chemisorptions~~, Langmuir and BET adsorption, Gibbs adsorption isotherm, ~~insoluble surface films, electrokinetic phenomena, zeta potential. Surface active agents – classification, micellization, hydrophobic interaction, CMC and factors affecting CMC – reverse micellization~~	Adsorption and free energy relation at interfaces Measurement of surface area – Kinetics of heterogeneous catalysis (Langmuir Hinshelwood mechanism and Eley-Rideal mechanism)

Percentage of Syllabus revised: 45 %
Course Focus on:

☑	Skill Development	☐	Entrepreneurial Development
☑	Employability	☐	Innovation
☐	Intellectual Property Right (IPR)		

M.Sc.
SYLLABUS REVISION

Name of the faculty: BAS
Board: Chemistry
Semester: I
Course Code/Name: 222CE2A1CD Analytical Techniques

Unit	Existing	Changes
I	**Unit I** Data and Error Analysis Various types of error – accuracy, precision, significant figures – frequency distributions, the binomial distribution, the Poisson distribution and normal distribution – describing data, population and sample, mean, variance, standard deviation, way of quoting uncertainty, robust estimators, repeatability and reproducibility of measurements. Hypothesis testing, levels of confidence and significance, ~~test for an outlier, testing variances, means t-Test, paired t-Test – analysis of variance (ANOVA) – correlation and regression. Curve fitting, fitting of linear equations, simple linear cases, weighted linear case~~, analysis of residuals – general polynomial equation ~~fitting, linearizing transformations, exponential function fit – r and its abuse – multiple linear regression analysis, elementary aspects.~~	--
II	**Unit II** Chromatography Solvent extraction–factors favouring solvent extraction, principles of ion exchange, paper, thin-layer and column chromatography techniques – principles, columns, adsorbents, methods, Rf values, McReynold's constants and their uses – HPTLC, IIPLC techniques – adsorbents, columns, detection methods, estimations, preparative column – GC-MS techniques -instrumentation methods, principles and uses.	Principles, instrumentation and uses of GC-FID, GC-ECD and GC-PFPD
III	**Unit III** Spectrophotometry, XRD and Fluorescence Spectroscopy Atomic absorption spectrophotometry (AAS)-principle, instrumentation and applications, types of interferences. Flame emission spectroscopy (FES)-theory, instrumentation and applications-~~Difference between AAS and FES.~~ Inductively coupled Plasma atomic emission spectroscopy (ICEP-AES)-principle and applications. XRD principle single crystal-powder crystal methods and application. ~~Basic aspects of synchroneus~~ fluorescence spectroscopy - ~~spectral hole burning – flow cytometry – fluorometers (quantization) – instrumentation -applications..~~	--
IV	**Unit IV** Radiochemical and Thermal Methods of Analysis ~~Isotopic dilution methods – neutron activation analysis – Radiometric titrations – applications-~~ principles, instrumentations and applications of thermogravimetry, Principles – instrumentations and applications of thermogravimetry analysis (TGA), Differential Thermal Analysis (DTA) and Differential Scanning Calorimetry (DSC) –thermometric titrations – types – advantages.	TGA and DTA of CaC2O4.H2O (Calcium oxalate monohydrate), CaCO3 (Calcium carbonate) PLA (poly lactic acid).
V	**Unit V** Electroanalytical Techniques ~~Electrochemical sensors,~~ ion-sensitive electrodes, glass - membrane electrodes, solid-liquid membrane electrodes - ion-selective ~~field effect transistors (ISFETs)~~ -sensors for the analysis of gases in solution. Polarography - principles and instrumentation - dropping mercury electrode -advantages, diffusion current- Ilkovic equation -applications of polarography -polarographic maxima - ~~oscillographic polarography,~~ AC polarography -cyclic voltammetry - advantages over polarographic techniques - ~~chronopotentiometry -advantages – controlled potential coulometry~~ - amperometric titrations: principles - techniques - applications - estimation of lead. ~~Basic principles of coulometryprinciplecoulometry -at controlled potential-coulometry at constant currentcoulometric titrations-advantages and applications.~~	--

Percentage of Syllabus revised: 40 %
Course Focus on:

☑	Skill Development	☐	Entrepreneurial Development
☑	Employability	☐	Innovation
☐	Intellectual Property Right (IPR)		

ATTENDANCE OF THE ELEVENTH BOARD OF STUDIES MEETING

Faculty: Basic and Applied Science **Board: Chemistry**

S. No	Name	Designation	Signature
1.	**Dr. M.SUGANTHI** Assistant Professor and Head (i/c) Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Chairman	
2.	**Dr.R.PRABHAKARAN** Assistant Professor, Department of Chemistry Bharathiar University Coimbatore – 641 046	Vice Chancellor Nominee	05/8/2022
3.	**Dr. SHUBASHINI K. SRIPATHI** Professor, Department of Chemistry, School of Physical Sciences and Computational Sciences, Avinashilingam University, Coimbatore-641043	Subject Expert	5/8/22
4.	**Dr.R.NANDHAKUMAR** Professor, Department of Applied Chemistry, School of Sciences, Karunya Institute of Technology and Sciences, (Deemed to be University), Coimbatore - 641 114	Subject Expert	
5.	**Mr. E. MUTHUSAMY** Priyadarshini Chemicals. Pvt. Ltd Nava India, Coimbatore- 641006	Industry Expert	5/8/2022
6.	**Ms. S. JEEVITHA** Quality Analyst, Food Analysis Laboratory Race course road, Coimbatore- 641018	Alumini	S. Jeevitha 5/8/22
7.	**Dr. R. RAVIKUMAR** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	05/08/22
8.	**Dr. M. DINESHKUMAR** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	
9.	**Mrs.P.Kavitha** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	5/8/2022

Cont...

10.	**Dr.K.SAKTHIVEL** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	5/8/22
11	**Dr.R.MENAKA** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	5/8/22
12	**Dr.MMOHANRAJ** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	5/8/22
13	**Dr.R.RAJKUMAR** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	5/8/22
14	**Dr.M.MYILSAMY** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	5/8/22
15	**Dr. S. SHYAMSIVAPPAN** Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Internal Member	05/08/22
16	**Dr. N. KUPPUCHAMY** Professor and Head, Department of Tamil, Dr. N.G.P Arts & Science College, Coimbatore-48.	Co-opted member	5/8/22
17	**Dr. R. VITHYA PRABHA** Professor and Head, Department of English, Dr. N.G.P Arts & Science College, Coimbatore-48.	Co-opted member	ABSENT
18	**Dr. C. SELVAKUMAR** Professor and Head, Department of Physics, Dr. N.G.P Arts & Science College, Coimbatore-48.	Co-opted member	5/8/22
19	**Dr. R. SOWRIRAJAN** Assistant Professor and Head, Department of Maths,	Co-opted member	ABSENT

Cont...

	Dr. N.G.P Arts & Science College, Coimbatore-48.		
20.	**Dr. D. SRIDEVI** Professor & HoD Department of Food Science & Nutrition, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted member	5/8/22
21.	**Dr. J. RENGA RAMANUJAM** Professor & HoD Department of Microbiology, Dr. N.G.P Arts & Science College, Coimbatore-48.	Co-opted member	
22.	**Dr. S.GOWRI** Professor & HoD Department of Biochemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Co-opted member	
23.	**Dr. P.CHIDAMBARA RAJAN** Professor & HoD Department of Biotechnology, Dr. N.G.P Arts & Science College, Coimbatore-48.	Co-opted member	5/8/22
24.	**R.KAMALEE** III B.Sc. Chemistry Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Student Representative	
25.	**R.KEERTHANA** II M.Sc. Chemistry Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48.	Student Representative	

Date: 05/08/2022

(Dr. M. Suganthi)

BoS Chairman/HoD
Department of Chemistry
Dr. N. G. P Arts and Science College
Coimbatore – 641 048

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