Department of Chemistry

Board of Studies Meeting

The minutes of the 20th meeting of Board of Studies held on 27.10.2026 at 10.00 am at room number-1414 (B1-Block)

Members Present:

S. No.	Name	Category
1	Dr. R. Ravikumar, Associate Professor & Head	Chairman
2	Dr. T. Selvaraju, Associate Professor, Department of Chemistry, Bharathiar University, Coimbatore	University Nominee
3	Dr. R. Nandhakumar, Professor of Applied Chemistry, School of Sciences, Karunya Institute of Technology and Sciences, Coimbatore	Subject Expert
4	Dr. A. Thangamani, Associate Professor and Head, Department of Chemistry, Karpagam Academy of Higher Education, Coimbatore	Subject Expert
5	Er. R. Ezhilmaran, Technical Head & Unit In-Charge, Sudharsan Heavy Engineering Industries Chinnavedampatti, Coimbatore	Industry Expert
6	Ms. S. Pooja Shri	Alumni
7	Dr. M.R. Ezhilarasi	Member
8	Dr. M. Dinesh Kumar	Member
9	Dr. R. Menaka	Member
10	Dr. V. Nijarubini	Member
11	Dr. R. Rajkumar	Member
12	Dr. M. Mohanraj	Member
13	Dr. D. Sridevi	Co-opted Member

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14	Dr. J. Rengaramanujam	Co-opted Member
15	Mr. G. Sanjith	Student Representative
16	Mr. M. Pradeeshraj	Student Representative

The HoD and Chairman of the Department of Chemistry welcome and introduced all the members and requested them to support for the development of academic standard and enrichment of the syllabus.

Item 20.1: *To review and approve the minutes of the previous meeting held on* 02.04.2026.

The Chairman of the board presented the minutes of the previous meeting held on 02.04.2026 and requested the members to approve. After brief discussion the following resolution was passed.

Resolution:

Resolved to approve the minutes of the previous meeting held on 02.04.2026.

Item 20.2: *To consider and approve the scheme and syllabi of II and IV semester for the M. Sc students admitted during the academic year 2025-26 and 2026-2027 respectively.*

The Chairman presented the detailed scheme and syllabi of the II and IV semesters for the students admitted during the academic year 2025-26 and 2026-27 respectively. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

Changes Made:

Course Code	Course	Change and reason
25CEP4CA	Synthetic Organic Chemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit-I Linear synthesis and Convergent synthesis with example was added to know the simple examples before enter into individual complex molecules.
25CEP4CB	Statistical Thermodynamics and Computational Chemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit-V Density Functional Theory was added to focus on computational research.
25CEP4DB	Catalysis	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit- I Autocatalysis and Oscillatory reactions

		were added to understand importance of nature of chemicals.
25CEP4DC	Medicinal chemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit-I Introduction, classification and general mode of action of medicine was added to impart awareness on medicine.
26CEP2CB	Bio-Inorganic Chemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit- V Two Metalocenes -Cobaltocene and Nickelocene were added to specify the compounds.
26CEP2DB	Electrochemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit-II Na-ion Battery was added Unit-III Hydrogen generation from different sources were added to learn advancements in batteries.

Resolution

Resolved to approve the above modification and adopt the revised syllabi for the students admitted during the academic year 2025-2026 and 2026-2027 respectively.

Item 20.3: *To consider and approve the scheme and syllabi of VI semester for the B. Sc students admitted during the academic year 2024-25.*

The Chairman presented the detailed scheme and syllabi of the VI semester for the students admitted during the academic year 2024-25. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

Changes Made:

Course Code	Course	Change and reason
24CEU6CB	Physical Chemistry-II	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit-II Photo Synthesis-I and Photosynthesis -II were added to understand difference in mechanism.
24CEU6DA	Polymer Chemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and

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		Dr. A Thangamani Unit-IV Types, Properties and applications of biopolymers and Bioplastics were added to understand importance of SDG.
24CEU6DF	Pharmaceutical Chemistry	The following changes have been made as per the suggestion given by subject expert Dr. T. Selvaraju, Dr. R. Nandhakumar and Dr. A Thangamani Unit-II Sixth and Seventh generation antibiotics were added to understand evolution of medicine.

Resolution

Resolved to approve the above modification and adopt the revised syllabi for the students admitted during the academic year 2024-2025.

Item 20.4: *To consider and approve the syllabi of self-study paper of III semester for the M. Sc students admitted during the academic year 2026-27.*

The Chairman presented the detailed self-study syllabi of the III semester for the students admitted during the academic year 2026-27. After discussion, the existing syllabus is approved without any changes. After discussion the following resolution was passed.

Resolution

Resolved to approve the existing syllabi for the students admitted during the academic year 2026-2027

Item 20.5: *To review and approve the inter department course for UG Microbiology and Food Science and Nutrition for II semester students admitted during the academic year 2026-27. To be offered during the academic year 2026-27.*

The Chairman presented the detailed scheme and syllabus of the II semester for the students admitted during the academic year 2026-27. After discussion, the existing syllabus is approved without any changes. After discussion the following resolution was passed.

Resolution

Resolved to approve the existing syllabus for the students admitted during the academic year 2026-2027.

Item 20.6: *To approve the panel of examiners for question paper setting, question paper scrutiny and conduct of practical and theory examinations for the even semester of the academic year 2026-27.*

The Chairman presented the panel of examiners for question paper setting, question paper scrutiny and conduct of practical and theory examinations for the even semester of the

academic year 2026-27.

Resolution:

Resolved to approve the panel of examiners for question paper setting, question paper scrutiny and conduct of practical and theory examinations for the even semester of the academic year 2026-2027.

Finally, the Chairman thank all the members for their cooperation and contribution in enriching the syllabi with active participation in the meeting and sought the same spirit in the future also. The meeting was closed with formal vote of thanks proposed by Dr. R. Ravikumar, Head and Chairman- Chemistry.

Date: 27.10.2026

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

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M. Sc Chemistry Syllabus Revision

Name of the faculty: BAS
Semester: IV
Board: Chemistry
Course Code/Name: 25CEP4CA –Synthetic Organic Chemistry

Unit	Existing	Changes
I	**Introduction to Retrosynthesis** Synthon - Synthetic equivalent - Target molecule - Electron donors (nucleophiles) - Electron acceptors (electrophiles)-Functional group interconversion - Disconnection approach -Importance of the order of events in organic synthesis. Chemo selectivity - One group C-C and C-O disconnection (disconnection of alcohols and carbonyl compounds)	Linear synthesis and convergent synthesis with examples
2	**Introduction to Retrosynthesis** Synthon - Synthetic equivalent - Target molecule - Electron donors (nucleophiles) - Electron acceptors (electrophiles)-Functional group interconversion - Disconnection approach -Importance of the order of events in organic synthesis. Chemo selectivity - One group C-C and C-O disconnection (disconnection of alcohols and carbonyl compounds)	
3	**Two group C-C & C-N Disconnections** 1,3 and 1,5 difunctionalized compounds, α, β-Unsaturated carbonyl compounds, control in carbonyl condensation, synthesis of 3, 5 and 6 membered rings in organic synthesis. Diels- Alder reaction, Retrosynthesis of 5 and 6 membered heterocycles containing two nitrogens. Designing synthesis: Disconnection approach in Ibuprofen, Rosiglitazone and captopril	
4	**Protection and Deprotection Chemistry** Need for protection and deprotection of functional groups during chemical reactions. Protection and cleavage of hydroxyl groups (by ethers) - Methoxymethylether (MOM)- Tetrahydropyranyl (THP) - Protection and cleavage of hydroxyl groups by esters - Trichloroacetate - 2,4,6-trimethylbenzoate. Protection and cleavage of 1,2 and 1,3-diols – Methylene dioxy derivative - Methoxymethyleneacetal- Ethyledineacetal. Protection and cleavage of Amino groups -Butoxy Carbonylation (BOC), Fluorenyl Methoxy Carbonyl (FMOC), N-Acetylation	
5	**Concepts of Supramolecular** Concepts and languages of supramolecular chemistry – various types of non- covalent interactions – Hydrogen bonds- – Proton-Proton interactions - Non–bonded interactions. Crystal engineering of organic solids – Hydrogen bonded supramolecular patterns involving water - carboxyl - halide motifs – Concepts of different types of synthons based on non-covalent interactions – Polymorphism - Pseudopolymorphism – Supramolecular isomorphism	

Percentage of Syllabus revised: 4%

Name of the faculty: BAS
Semester: IV

Board: Chemistry
Course Code/Name: 25CEP4CB
–Statistical Thermodynamics and Computational Chemistry

Unit	Existing	Changes
I	**Statistical Thermodynamics-I** Mathematical introduction - Theories of permutations and combinations – Laws of probability. Maxwell-Boltzmann statistics – Thermodynamic probability – Thermodynamic probabilities of system in equilibrium – Boltzmann expression for entropy – Stirling's approximation – State of maximum thermodynamic probability – Legrangian multipliers – Thermodynamics probabilities of systems involving energy levels – Gaussian distribution - Maxwell-Boltzmann distribution law and evaluation of alpha and beta)	
2	**Statistical Thermodynamics - II** Bose-Einstein and Fermi-Dirac Statistics: Bose-Einstein distribution law – Entropy of Bose-Einstein gas - Plank distribution law for black body radiation – Fermi-Dirac distribution law – Entropy of a Fermi-Dirac gas – Heat capacity of electron gas and the heat capacity of metals – Helium at low temperature – Negative absolute temperature	
3	**Chemical and Phase Equilibria** Reaction free energy/ reaction potential - Reaction isotherm and direction of spontaneity - Standard reaction free energy - Calculation from thermochemical, electrochemical and equilibrium data - Temperature coefficient of reaction free energy and equilibrium constant. Gibbs phase rule - Thermodynamic derivation - Application of phase rule to three component systems - Formation of one pair and two pairs of partially miscible liquids - Common ion effect – Salting out	
4	**Introduction to Computational Chemistry** Introduction to computational chemistry - History and evolution of cheminformatics – Use of cheminformatics, prospects of cheminformatics - Database management, cheminformatics database - Introduction to molecular modelling and drug design	
5	**Application of Computational Chemistry** Concepts of computational chemistry - Molecular mechanics: general features, bond stretching, angle bending, improper torsions, out of plane bending, non-bonded interactions, point charges, calculation of atomic charges, polarization, Van der – Waals interactions-Molecular docking studies - Chem draw	Density Functional Theory

Percentage of Syllabus revised: 2%

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Name of the faculty: BAS
Semester: IV

Board: Chemistry
Course Code/Name: 25CEP4DB –Catalysis

Unit	Existing	Changes
I	**Introduction to Catalysis** Fundamental aspects of catalysis - Homogeneous and Heterogeneous catalysis - Enzyme catalysis - Green catalysis - Nano catalysis. The role of catalytic processes in modern chemical manufacturing - Organometallic catalysts - Catalysis in organic polymer chemistry - Catalysis in petroleum industry - Catalysis in environmental control - Catalytic poison and Phase transfer catalysis)	Autocatalysis and Oscillatory reactions
2	**Homogeneous Catalysis** Metal mediated C-C and C-X coupling reactions - Negishi and Nozaki-Hiyama, Buchwald-Hartwig, Ullmann coupling reactions. Ruthenium, Osmium, Rhodium and Iridium catalyzed C-H activation reactions and their synthetic utility. Molybdenum, Tungsten and Rhodium based carbene and nitrene complexes, cyclopropanation. Introduction to N-heterocyclic carbene metal complexes	
3	**Characterization of Solid Catalysts** Surface area - Structure, surface morphology, porosity, pore volume, diameter, particle size. Instrumentation and applications of Scanning Electron Microscope (SEM), Transmission Electron Microscopy (TEM) and Atomic Force Microscope (AFM). Temperature Programmed Desorption (TPD), Temperature – Programmed Reaction (TPR) for acidity and basicity of the catalysts. Boundary layer theory -Wolkenstein theory - Balanding's approach	
4	**Heterogeneous Catalysis** Adsorption isotherms - Catalysis by metals - Semiconductors and solid acids - Supported metal catalysts - Catalyst preparation - Deactivation and regeneration - Ammonia synthesis - Hydrogenation of carbon monoxide – Hydrocarbon conversion - Selective catalytic reduction - Polymerization	
5	**Photocatalysis** Introduction to photocatalysis - Semiconductor as photocatalysts - Porphyrins - Phthalocyanines. Generation of hydrogen by photocatalysts, photocatalytic break down of water and harnessing solar energy, photocatalytic degradation of dyes, environmental applications.	Band gap for materials

Percentage of Syllabus revised: 4 %

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Name of the faculty: BAS
Semester: IV

Board: Chemistry
Course Code/Name: 25CEP4DC –Medicinal Chemistry

Unit	Existing	Changes
I	**Antibacterial Sulpha Drugs** Introduction, Synthesis and mode of action of sulphonamides for general infections – Sulphanilamide – Sulphapyridine. Urinary infections –Sulphacetamide – Sulphafurazole. Intestinal infections – Sulphaguanidine - Phthalylsulphathiazole. Local infection – Sulphacetamide sodium - Mafedine)	Introduction classification and general mode of action of medicine was added
2	**Anti-Mycobacterial, Thyroid and Antithyroid Drugs** Introduction - Synthesis and mode of action of pyrazinamide, fluoroquinolones and ofloxacin. Structure and mode of action of cycloserine, clofazimine, ciproflaxacine hydrochloride and capreomycin. Synthesis and uses of Thyroxine, carbimazole, methimazole. Structure and uses of levothyroxine sodium and liothyronine sodium	
3	**Anesthetics and Analgesics** Introduction to anesthetics – Preparation of inhalation anesthetics – Ether – Ethyl chloride – Fluroxene - Halothane. Structure of intravenous anesthetics – Ketamine hydrochloride – Methohexital sodium. Introduction to analgesics- Morphine analogues – Morphine sulphate – Diamorphine hydrochloride - Dextromethorphan hydrobromide (structure only). Synthesis and advantages of phenylpiperidine analogues - Pethidine hydrochloride – Diphenoxylate hydrochloride.	
4	**Non-Steroidal Anti-Inflammatory Drugs** Introduction, classification, synthesis and mode of action of indomethacine, sulindac, tolmetin sodium, ibuprophen, dichlorophenal sodium, naproxen, auranofin and allopurinol	
5	**Antimalarial Drugs** Introduction, synthesis and mode of action of chloroquine phosphate, pamaquine, primaquine phosphate, proguanil hydrochloride, pyrimethamine, trimethoprim	

Percentage of Syllabus revised: 4 %

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Name of the faculty: BAS
Semester: II

Board: Chemistry
Course Code/Name: 26CEP2CB –Bio-Inorganic Chemistry

Unit	Existing	Changes
I	**Cobalamines, Heme and Non-Proteins Hemoglobin** Reactions of the alkyl cobalamins – One-electron Reduction and Oxidation – Co-C Bond Cleavage – Coenzyme B12 – Alkylation reactions of methyl cobalamin. Hemoglobin and Myoglobin – Oxygen transport and storage – Electron transfer and Oxygen activation. Cytochromes, Ferredoxins and Rubredoxins – Model systems, mononuclear non-heme iron enzymes. Blue copper protein	
2	**Metal ions in biological system** Classification of elements according to their action in biological systems, Na & K ion transport, Na / K pump. Consequences of excess and deficiency of trace metals. Toxicity of metal ions (Hg, Pb, Cd and As) - Reasons for toxicity. Use of chelating agents in medicine - Cis platin mode of action	
3	**Nitrogen fixation and Photosynthesis** Nitrogenase enzyme: Introduction, types of nitrogen fixing microorganisms, metal clusters in nitrogenase. Nitrogen fixation pathway. Biological redox reactions. Chlorophyll - Light and dark phase reactions of photosynthesis, artificial photosynthesis	
4	**Metal-alkylidene/alkene/alkyne complexes** Synthesis of alkylidene complexes in low oxidation states and in high oxidation states. Alkene complexes - Synthesis – Bonding - Reactivity - Ligand substitution – Reactions with nucleophiles. Alkyne complexes – Synthesis by reduction method. Insertion reactions - Cobalt catalyzed alkyne cycloaddition with nitrile, alkene and alkyne.	
5	**Metallocenes** Cyclopentadienyl complexes - Metallocenes – Synthesis of metallocenes - Reactions of metallocenes – Bonding, redox and substitution reactions of ferrocene - Application of ferrocenes - Blood glucose sensors - Synthesis of bent metallocene complexes – Reactivity of bent metallocenes - Substitution, bonding, structure of arene complexes and MXN type.	Cobaltocene and Nickelocene

Percentage of Syllabus revised: 2 %

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Name of the faculty: BAS
Semester: II

Board: Chemistry
Course Code/Name: 26CEP2DB – Electrochemistry

Chemistry

Unit	Existing	Changes
I	**Electrochemistry** Electrolytic cell - Electrochemical cell - Electrode potential. The reaction quotient (Q), for a chemical reaction - The potential (E), for non-standard conditions using the Nernst Equation - Rate of reaction and types of over-voltages in galvanic and electrolytic cells - Tafel Equation - Efficiency of chemical energy conversion: batteries versus heat engines	
2	**Batteries** Hybrid Batteries - Metal-air batteries - Zn-air battery - Fe-air battery - Charging of metal-air battery - Metal oxide-hydrogen/hydride batteries - Advantages and limitations. Primary and secondary lithium battery - Li-ion battery and Lithium-ion polymer battery. Electrochemical supercapacitors - Electrolytic capacitor and ultracapacitors – Applications – Advantages - Limitations	Na-ion Battery
3	**Fuel Cells** Energy efficiency of electrochemical and thermal conversion (Carnot limitation) – Classification of fuel cells - Fuel cell efficiency- Thermodynamic and electrochemical efficiency. Electrode mechanism of fuel cell - Working principle - Applications - Proton exchange membrane (PEM) fuel cells and direct methanol fuel cell.	Hydrogen generation from different sources
4	**Surface modification Techniques** Importance of metal finishing – Electroplating-Additives in plating baths and their significance - Effect of plating variables on deposit properties - Preparation of substrate surface - Techniques of Electroplating and Electroless Plating – Galvanizing – Anodizing - Phosphating, Chromating. Electroless plating - Advantages over electroplating - Pretreatment of substrates -Electroless plating of Ni – Process and applications	
5	**Battery Thermal Management Systems** Cooling techniques - Air, liquid - phase-change materials (PCMs) - Hybrid systems. Heating systems - Pre-heating for low-temperature operation. Thermal modeling of battery modules and packs -Thermal sensors and control strategies - Real-time monitoring - BMS integration	

Percentage of Syllabus revised: 4 %

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B. Sc Chemistry Syllabus Revision

Name of the faculty: BAS
Semester: VI
Board: Chemistry
Course Code/Name: 24CEU6CB –Physical Chemistry-II

Unit	Existing	Changes
I	**Chemical Kinetics** Factors affecting rate of a reaction - Order and molecularity - Rate constant determination of zero, first, second and third order reactions - Pseudo unimolecular reaction - Half-life of zero, first, second and third order reactions – Temperature dependence of reaction rates- Arrhenius equation. Theories of reaction rates - Collision theory - Absolute reaction rate theory - Significance of the free energy of activation and entropy of activation - Unimolecular reactions - Mechanism of Lindmann theory and Hinshelwood theory.	
2	**Photochemistry** Laws of photochemistry – Grothus - Drapper law – Stark-Einstein law of photochemical equivalence – Quantum efficiency – determination of quantum efficiency – chemical actinometry – consequence of light absorption – Jablonski diagram – radiative and non-radiative transitions – Theory of Fluorescence and Phosphorescence – Chemiluminescence and bioluminescence - spin crossover - photochemical reactions – kinetics of photochemical combination of H_2 and decomposition of HI – Energy transfer in photochemical reactions – photosensitization - photosynthesis in plants.	Photo Synthesis-I and Photosynthesis -II
3	**Surface Chemistry -Adsorption and Catalysis** Types of adsorptions, adsorption of gases by solids. Adsorption isotherms – Freundlich, Langmuir. Theories of catalysis - Types of catalysis – Characteristics of catalytic reactions – Promoters – Catalytic poisoning– Autocatalysis –Negative catalysis – Intermediate Compound Formation Theory- Adsorption Theory– Enzyme catalysis–kinetics of enzyme catalysis– Michaelis Menton equation applications of enzyme catalysis	
4	**Solutions and Colligative Properties** Thermodynamics of ideal solutions: Ideal solutions and Raoult's law, deviations from Raoult's law – non-ideal solutions. Vapour pressure-composition and temperature composition curves of ideal and non-ideal solutions. Distillation of solutions. Lever rule. Azeotropes. Partial miscibility of liquids: Critical solution temperature; effect of impurity on partial miscibility of liquids. Immiscibility of liquids- Principle of steam distillation. Nernst distribution law and its applications. Colligative properties- elevation of boiling point, depression in freezing point – Abnormal behavior of solutions of electrolyte.	
5	**Phase Equilibria** Phase Rule: Concepts of phase, component and degrees of freedom, with examples. Gibb's phase rule – derivation. One-component system: Phase diagrams: Water system and sulphur system. Two component system: (i) Simple eutectic: Lead-silver system- Formation of compound with congruent melting point: Ferric chloride – water system. Clausius - Clapeyron equations and their applications to equilibria in phase	

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	transitions. (solid – liquid, liquid – vapour, solid – vapour).	

Percentage of Syllabus revised: 2 %

Name of the faculty: BAS
Semester: VI

Board: Chemistry
Course Code/Name: 24CEU6DA
–Polymer Chemistry

Unit	Existing	Changes
I	**Introduction to Polymers** Basic concepts such as monomers, polymers, polymerization, degree of polymerization, classification of polymers - Plastics - Thermoplastic and thermosetting plastics. Natural and synthetic rubber -Smoked rubber - Reclaimed rubber -Foam rubbers - Spongy rubber - Laminate rubber. Specialty polymers – Biopolymers, Conducting polymers, engineering polymers – Applications.	
2	**Chemistry of Polymerization** Addition polymerization – Free radical polymerization – Ionic polymerization – cationic and anionic – Co-ordination polymerization – Condensation polymerization – Three dimensional polymerization – Cross linking – Gel point – Ring scission polymerization.	
3	**Polymer Stereochemistry** Tacticity of polymers – Zeigler-Natta polymerization (Mono metallic mechanisms) Glass transition temperature (Tg) - Factors influencing Tg - Determination of Tg - Glass transition temperature of copolymer, importance of Tg..	
4	**Commercial Polymers** General methods of preparations - Properties and uses of the following polymers: Polyethylene - Low Density Polyethylene (LDPE), High Density Polyethylene (HDPE), Polyvinyl Chloride (PVC), Polymethyl Methacrylate (PMMA), Polyacrylonitrile (PAN), Polyacrylic acid, Polymethacrylic acid, Polystyrene, Polyester, Phenol formaldehyde resin, Polycarbonates – Acetal resins – Polysulphones, Nylon - 6, polyamide (kevlar) - Polymers for biomedical applications.	Types, Properties and applications of biopolymers and Bioplastics were added
5	**Plastic Processing** Basic principles of processing – Shape and size – Processing parameters – Effects and behavior. Polymer compounding – Additives – Filers, plasticizers, antioxidants, stabilizers, colourants. Process techniques: Injection moulding, compression moulding, blow moulding, extrusion moulding, calendering, foaming, laminating. Coating and spinning.	

Percentage of Syllabus revised: 4 %

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Name of the faculty: BAS
Semester: VI

Board: Chemistry
Course Code/Name: 24CEU6DF –Pharmaceutical Chemistry

Unit	Existing	Changes
I	**Drug Terminology and Classification** Drug action, Terminologies – Pharmacy, pharmacology, pharmacognosy - Pharmacophore - Pharmacodynamics - Antimetabolites – Chemotherapy – Pharmacopoeia Classification of Drugs – Biological and chemical classification – Roots of drug administration, mechanism of drug action, metabolism of drugs - Biotransformation, absorption of drugs, factors affecting the absorption.	
2	**Antibacterial and Antiviral** Sulpha drugs - Examples and actions - Prontosil, sulphathiazole, sulphafurazole. Antibiotics-penicillin, streptomycin, chloramphenicol, erythromycin, tetracyclin – Specific Absorption Rate (SAR) of chloramphenicol. Antiviral drug - Remdesivir, galidesivir, favipiravir, baloxavir – Structure and mode of action.	Sixth and Seventh generation antibiotics
3	**Analgesics, antiseptics and disinfectants** Analgesics - Definition, classification, action of analgesics, aspirin, paracetamol, narcotic analgesics. Antiseptics and disinfectants - Definition and distinction, uses of phenols, dyes, chloroamine, formaldehyde and cationic surface - Active agents.	
4	**Anaesthetics** Anaesthetics - Definition and classification, uses of volatile anaesthetics - Ether, chloroform, halothanes, trichloroethylene, Ferguson principle. Gaseous anaesthetic - Cyclopropane, nitrous oxide. Non-volatile anaesthetics – Thiopental sodium. Local anaesthetics – Classification, structure and uses of procaine, cocaine and amethocaine.	
5	**Diagnostic agents** Diagnostic agents – Radio opaques, preservatives, anti-oxidants, sweetening agents, emulsifying agents, ointment bases, coloring agents.	

Percentage of Syllabus revised: 4 %

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ATTENDANCE OF THE TWENTIETH BOARD OF STUDIES MEETING

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

S. No.	Name	Category	Attendance Status
1	Dr. R. Ravikumar, Associate Professor & Head, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Chairman	Present
2	Dr. T. Selvaraju, Associate Professor, Department of Chemistry, Bharathiar University, Coimbatore	University Nominee	Present
3	Dr. R. Nandhakumar, Professor of Applied Chemistry, School of Sciences, Karunya Institute of Technology and Sciences, Coimbatore	Subject Expert	Present
4	Dr. A. Thangamani, Associate Professor and Head, Department of Chemistry, Karpagam Academy of Higher Education, Coimbatore	Subject Expert	Present
5	Er. R. Ezhilmaran, Technical Head & Unit In-Charge, Sudharsan Heavy Engineering Industries Chinnavedampatti, Coimbatore	Industry Expert	Present
6	Ms. S. Pooja Shri R&D Assistant, Sf no 40/2, Wafe Auxilliary Chemicals Pvt Ltd Kurukkampalayam, MGC Palayam (P), Near Ganeshapuram, Coimbatore- 641107	Alumni	Present
7	Dr. M.R. Ezhilarasi Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Present
8	Dr. M. Dinesh kumar Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Present

9	Dr. R. Menaka Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Present
10	Dr. V. Nijarubini Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Present
11	Dr. R. Rajkumar Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Present
12	Dr. M. Mohanraj Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Present
13	Dr. D. Sridevi Professor and Head, Department of Food Science & Nutrition, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	Present
14	Dr. J. Rengaramanujam Professor and Head, Department of Microbology, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	Present
15	Mr. M. Pradeeshraj, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Student Representative	Present
16	Mr. G. Sanjith, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Student Representative	Present

Date: 27-10-2026

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