Department of Chemistry

Board of Studies Meeting

The minutes of the 19th meeting of Board of Studies held on 02.04.2026 at 10.00 am at Room number-A1-410

Members Present:

S. No.	Name	Category
1	Dr. R. Ravikumar, Associate Professor & Head i/c	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. P. Kavitha	Member
10	Dr. R. Menaka	Member
11	Dr. V. Nijarubini	Member
12	Dr. R. Rajkumar	Member
13	Dr. M. Mohanraj	Member

14	Dr. N. Kuppuchamy	Co-opted Member
15	Dr. A. Hazel Verbina	Co-opted Member
16	Dr. K.Girija	Co-opted Member
17	Dr. R. Sowrirajan	Co-opted Member
18	Dr. D. Sridevi	Co-opted Member
19	Dr. S. Gowri	Co-opted Member
20	Dr. P. Chidambararajan	Co-opted Member
21	Mr. M. Predeesh raj	Student Representative-UG
22	Mr. Sanjith	Student Representative-PG

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 19.1: *To review and approve the minutes of the previous meeting held on **10.11.2025.***

The Chairman of the board presented the minutes of the previous meeting held on ***10.11.2025*** 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 *10.11.2025.*

Item 19.2: *To consider and approve the scheme and syllabi of Vth semester for UG students admitted during the academic year 2024-2025 and III semesters for PG students admitted during the academic year 2025-26 and I semester for PG students admitted during the academic year 2026-27*

The Chairman presented the detailed scheme and syllabi of the V semester for the UG students admitted during the academic year 2024-25 and the detailed scheme and syllabi of the III semester for the PG students admitted during the academic year 2025-26 and I semester for the PG students admitted during the academic year 2026-27. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

Resolution

Resolved to approve the above modification and adopt the revised syllabi for the students admitted during the academic year 2025-2026 for II PG students and academic year 2024-25 for III UG students.

Item 19.3: *To consider and approve the scheme and syllabi of III semester for the M. Sc students admitted during the academic year 2025-26.*

The Chairman presented the detailed scheme and syllabi of the III semester for the students admitted during the academic year 2025-26. 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
25CEP3DB	Nanomaterials and Nanotechnology	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 Plasma resonance, Fermi resonance, Nanotechnology products of today, non-biodegradable nature of nanoparticles and its impact on environment were added.
25CEPSSB	Forensic Chemistry and Crime Investigation	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 IV Arsons-fire burning pattern detection was added
25CEPSSA	Research Methodology	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 III: Sampling, Data Collection and analysis: Types and sources of data – Primary and secondary, Methods of collecting data, Concept of sampling and sampling methods – characteristics of good sample- simple random sampling- convenience sampling- snowball sampling - classification and tabulation of data - graphical representation of data - graphs and charts. Statistical Methods for Data Analysis - Applications of Statistics in Research Unit IV: Ethics in Research - Plagiarism - Definition- different forms- consequences - unintentional plagiarism- copyright infringement- collaborative work. Qualities of good Researcher. Unit V: ICT Tools for Research: Role of computers in research - maintenance of data using software such as Mendeley- Endnote - Tabulation and graphical presentation of

		research data and software tools. Web search: Introduction to Internet, use of Internet and WWW, using search engines and advanced search tools.

Resolution

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

Item 19.4: *To consider and approve the scheme and syllabi of I semester for the M. Sc students admitted during the academic year 2026-27.*

The Chairman presented the detailed scheme and syllabi of the I 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 19.5: *To consider and approve the scheme and syllabi of V semester for the B. Sc students admitted during the academic year 2024-25.*

The Chairman presented the detailed scheme and syllabi of the V 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
25CEU5CC	Physical 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 Factors affecting corrosion was added.
25CEU5DA	DSE: Industrial 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 IV: Quick setting of cement was added.

Resolution

Resolved to approve the above modification and adopt the revised syllabi for the

students admitted during the academic year 2024-2025.

Item 19.6: *To review and approve the inter department course for UG Biochemistry, Food science and Nutrition and Biotechnology for I 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 I semester for the students admitted during the academic year 2026-27. 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
26CEU1IA, 26CEU1IB	IDC chemistry (Biochemistry, Food Science and Nutrition and Biotechnology)	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 III is revised completely as different types of bonding.

Resolution

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

Item 19.7: *To review and approve the Ability Enhancement Compulsory Course (AECC)-Environmental studies for all I semester UG students admitted during the academic year 2026-27. To be offered during the academic year 2026-27.*

The chairman presented the Environmental studies syllabus for the students admitted during the academic year 2026-27. 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
26CEU1AA	Environmental studies	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 IV Disaster management: floods, earthquake, cyclone and landslides. Sustainable development goals were added

Resolution:

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

Item 19.8: *To consider and approve any other item brought forward by the chairman and the members of the board.*

The Chairman presented the self-study and NPTEL courses offered in the III semester for UG and PG students to earn extra credits. After the discussions, the following resolution was passed.

Resolution:

Resolved to approve the self-study and NPTEL courses offered in the III semester for UG and PG students to earn extra credits.

Item 19.9: *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 i/c and Chairman- Chemistry.

Date: 02.04.2026

(Dr. R. Ravikumar)

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

M.Sc Chemistry Syllabus Revision

Name of the faculty: BAS **Board:** Chemistry

Semester: III **Course Code/Name: 25CEP3DB – NANOMATERIALS AND NANOTECHNOLOGY**

Unit	Existing	Changes
I	**Introduction to Nano science** Nano science, nanomaterials - Scale of materials natural and manmade - Properties - Classification of nanomaterials – Origin, phase composition, constituents, dimensions - Energy at bulk and nano scale - Size effect of Nanomaterials - Shape, density, melting point, specific surface area, band gap variation – Quantum confinement - 0D, 1D, 2D and 3D	
2	**Carbon Nanostructures** Introduction - Carbon molecules – Nature of the carbon bond – New carbon structures; carbon clusters – Carbon nanotubes, Graphene, Graphene oxide, Reduced Graphene Oxide (RGO) – Fabrication – Structure – Electrical properties – Mechanical properties; applications of carbon nanotubes – Field emission and shielding – Computers – Fuel cells – Chemical sensors – Catalysis – Mechanical reinforcement	
3	**Synthesis of Nanomaterials** Top down and bottom up approaches: Physical Methods – Inert gas condensation, ion sputtering, laser ablation, laser pyrolysis, chemical vapour deposition and electro deposition Chemical methods - Chemical precipitation and co-precipitation, sol-gel synthesis, solvothermal synthesis, microwave heating synthesis, sonochemical synthesis, electrochemical synthesis and photochemical synthesis.	
4	**Characterization Techniques** Principle, instrumentation and Structural characterization - Electron microscopy techniques - Scanning electron microscopy, transmission electron microscopy - X-ray diffraction. Surface characterization - XPS, atomic force microscopy	
5	**Applications of Nanomaterials** Nanomaterials for Solar cells - Smart materials - Biosensors - Drug delivery and therapy - Food packaging - Detection of cancerous cells, nano polymer composite in defense and aerospace. Nanoscale catalysts for energy and automobile industries - Nanomaterials for electrodes and wearable electronics - Nano based coating and paints	Unit V Plasma resonance, Fermi resonance, Nanotechnology products of today, Non-Biodegradable nature of nanoparticles and its impact on environment

Percentage of Syllabus revised: 10%

M.Sc Chemistry Syllabus Revision

Name of the faculty: BAS **Board:** Chemistry
Semester: III **Course Code/Name: 25CEPSSB**

FORENSIC CHEMISTRY AND CRIME INVESTIGATION

Unit	Existing	Changes
I	**Forensic Chemistry Introduction** History - Definition - Role of a forensic chemist - Scope and significance in forensic Science - Techniques employed in forensic chemistry - Cases encountered in forensic chemistry Sample Collection - Sample Integrity - Theory of forensic analysis, Identification, Presumptive analysis, Confirmatory analysis - Comparative analysis, Forensic labs in India	
2	**Drug Abuse** Introduction-Drug abuse - Classification of Drugs of abuse - Stimulants Depressants - Hallucinogens - Narcotics - Cannabis - Volatile solvents - Other common drugs of abuse - Psychoactive drugs - Classification of psychoactive drugs- Narcotics - Stimulants - Depressants - Hallucinogens.	
3	**Forensic Toxicology** Introduction to toxicology - History of toxicology - Classification of toxicology - Analytical toxicology - Development and advances of forensic Toxicology- Plant Poisons, Organic Poisons, Microbial Poisons, Inorganic Poisons.	
4	**Chemical Analysis of Explosives** Forensic examination of explosives - Chemical composition explosives - Chemical analysis of explosives- Ignition susceptibility test, Colorimetric tests - diphenylamine test, anthrone spot test. Microcrystalline tests for explosives - Cropen microcrystalline test	Unit IV Arsons-fire burning pattern detection
5	**Identification of Fingerprints** Sources of latent fingermark residue - Aqueous components, Lipid components, Amino acid sensitive reagents - Detection of Latent Fingerprints - Iodine Method, silver nitrate method, Vacuum metal deposition method- Amino acid sensitive reagents Lipid-Sensitive reagents.	

Percentage of Syllabus revised: 5 %

M.Sc Chemistry Syllabus Revision

Name of the faculty: BAS
Board: Chemistry
Semester: III
Course Code/Name: 25CEPSSA
RESEARCH METHODOLOGY

Unit	Existing	Changes
I	**Research Concepts & Literature Survey** Importance of research in Science - Criteria of good research - Qualities of a good researcher - Sources of a research problem - Types of research - Sources of information – Primary, Secondary, Tertiary sources – Journals – Journal abbreviations – Current titles - ~~Abstracts Reviews~~ – Acquisition of information - ~~Web resources E-journals~~ – Citation index – Impact factor - H-index - I10 index - Science Direct – Sci Finder - Web of science - SCI - Scopus.	**Research Concepts & Literature Survey** Importance of research in Science - Criteria of good research - Qualities of a good researcher - Sources of a research problem - Types of research - Sources of information – Primary, Secondary, Tertiary sources – Journals – Journal abbreviations - Acquisition of information - Citation index – Impact factor - H-index - I10 index - Science Direct – Sci Finder - Web of science - SCI - Scopus
2	**Scientific Writing ~~and Computer aided packages~~** Components of a good research report - Tabulation and computation of data- illustration of graphical data - Compilation of results – Characterization of research - Presentation - Synopsis preparation and thesis writing - Writing scientific papers – Bibliography – Conclusions -The need for illustration – Style - Publications of scientific work - Writing ethics - Avoiding plagiarism.	**Scientific Writing** Characterization of research - Components of a good research report - Abstracts – Reviews –Tabulation and computation of data- illustration of graphical data - Compilation of results — Conclusions - Bibliography - Synopsis preparation and thesis writing - Writing scientific papers - Publications of scientific work
3	~~**X-ray Crystallography**~~ ~~Diffraction of X-rays by crystal lattice Laue's formulation of X-ray diffraction Diffraction methods Laue Diffraction Rotating crystal method Oscillation method Powder method X-ray diffractometer Data collection~~	**Sampling, Data Collection and analysis** Types and sources of data – Primary and secondary, Methods of collecting data, Concept of sampling and sampling methods –characteristics of good sample- simple random sampling- convenience sampling- snowball sampling - classification and tabulation of data
4	~~**Structure Determination and Thin Film Technology**~~ ~~Scattering factor Structure factor Phase problem Structure determination Structure refinement Structure analysis. Thermal evaporation-General Consideration-Evaporation methods- Chemical Methods-Electro Deposition-Chemical vapour deposition Miscellaneous methods~~	**Ethics in Research** Introduction – COPE (Committee on Publication Ethics) guidelines – Ethics with respect to science and research, scientific misconduct: falsification and plagiarism, similarity index, software tools for finding plagiarism, redundant publications.
5	~~**Sputtering**~~ ~~Cathodic sputtering Sputtering Process Glow discharge methods Sputtering Variants Low pressure sputtering Reactive Sputtering Sputtering of multi-component materials Vacuum Deposition Apparatus Vacuum systems Substrate deposition Technology Thickness Measurement.~~	**Statistical analysis for Chemists** Types of data, data collection – methods of tools, data processing – hypothesis testing, normal and binomial distribution, tests of significance: t-test, F-test, Chi-square test, ANOVA (Analysis of Variance) analysis. Features of data analysis with computers and softwares – Microsoft Excel, Origin, SPSS

Percentage of Syllabus revised: 60 %

Cont…

B.Sc Chemistry Syllabus Revision

Name of the faculty: BAS **Board:** Chemistry

Semester: V **Course** **Code/Name:** **25CEU5CC**

PHYSICAL CHEMISTRY - I

Unit	Existing	Changes
I	**Fundamental concepts of Conductance** Electrolytic conductance- Conductivity cell - Measurement of conductance of solutions – Specific, equivalent and Molar conductance – Variation of equivalent conductance and specific conductance with dilutions. Variation of conductance for strong and weak electrolytes - Migrations of ions - Transport number - Determination by moving boundary method and Hittorf's method - Kohlrausch's law and its application. Arrhenius theory of dissociation and Ostwald's dilution law.	
2	**Theories and Applications of Conductance** Theory of strong electrolytes: An elementary treatment of Debye-Huckel theory- Debye-Falkenhagen effect and Wien effect. Activity coefficients of electrolytes - Mean ionic activity coefficient, ionic strength, Debye-Huckel theory of mean ionic coefficient. Applications of conductivity measurements-Conductometric titrations and precipitation titrations.	
3	**Electrochemical cells** Electromotive force & its measurements - Standard cells - Cell reaction & EMF convention for cell representation & sign of EMF. Galvanic cell– Reversible and irreversible cells- Electrode potentials – Standard hydrogen electrode - Kinds of electrode and their potentials. Standard and Single electrode potentials - Calculation of cell EMF from single electrode potentials. Thermodynamics quantities of cell reaction - Thermodynamics of electrode potentials – Nernst equation - Electrochemical series and its applications	
4	**Concentration Cells and Fuel cells** Concentration cells with and without transport - Liquid junction potential- Applications of emf measurements - Calculation of G, H, S and equilibrium constant - Determination of pH using quinhydrone and glass electrodes - Potentiometric titrations – Acid-base and redox titrations- Determination of solubility of a sparingly soluble salt Fuel cells - hydrogen-oxygen fuel cell -	

	hydrocarbon - Oxygen cell. Storage cells - Lithium-ion cell (basics only)	
5	**Polarography and Corrosion** Polarography – Instrumentation - Advantages and disadvantage of dropping mercury electrode - Limiting current, factors affecting limiting current - Half wave potential-Application of polarography – Decomposition voltage - overvoltage, discharge potential - Corrosion – Types - electrochemical nature – Factors affecting corrosion - Prevention - Cathodic protection and sacrificial anodic protection.	Unit V Factors affecting corrosion

Percentage of Syllabus revised: 2 %

B.Sc Chemistry Syllabus Revision

Name of the faculty: BAS **Board:** Chemistry

Semester: V **Course Code/Name: 25CEU5DA**

INDUSTRIAL CHEMISTRY

Unit	Existing	Changes
I	**Sugar Industry** Manufacture of cane sugar - Defection - Sulphitation and carbonation. Concentration or evaporation – Crystallization - Separation of crystals- Drying - Refining - Grades. Recovery of sugar from molasses. Manufacture of sucrose from beetroot.	
2	**Fermentation** Conditions favorable for fermentation. Characteristics of enzymes - Fermentation processes and types - Batch - Fed batch - Continuous - Solid state - Anaerobic - Aerobic Fermentation. Alcohol beverages - Manufacture of beer and wines. Ethyl alcohol from molasses.	
3	**Chemical Explosives** Types of explosives. Preparation and properties of lead azide, nitroglycerine, nitrocellulose, 2,4,6-Trinitrotoluene (TNT), Royal Demolition eXplosive (RDX), dynamite, cordite, picric acid, gunpowder, Improvised Explosive Devices (IED)	
4	**Cement and Ceramics** Cement: Manufacture of cement - Settling of cement (Portland cement) – quick setting cement. Ceramics: Manufacturing process - Application of colors to the pottery - Rectified tiles - M-Sand - P-Sand.	Unit IV: Quick setting of cement

5	**Pigments and Paints** Pigments: Requirements of a pigment - Typical inorganic pigments - Applications. Paints: Classification of paints – Constituents of paints - Requirements of a good paint - Enamels - Distempers- Emulsion paints - Latex paints - Paint removers - Varnishes - Solvents and thinners.	

Percentage of Syllabus revised: 2 %

IDC Chemistry Syllabus Revision
Biochemistry and Food science and Nutrition

Name of the faculty: BAS **Board:** Chemistry
Semester: I **Course Code/Name: 26CEU1IA/ CHEMISTRY**

Unit	Existing	Changes
I	**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 - Ostwald and quinonoid theory.	
2	**Acids and Bases** Acid base theories – Strength of acids and bases – Equilibrium constant and ionic constant of water- pH, pKa, pKb, Buffer solution, pH and pOH simple calculations.	
3	**Chemical Bonding** Types of bonding - Ionic Bond: Nature of ionic bond, factors influencing the formation of ionic bond, Covalent and coordinate bond - ~~Molecular Orbital Theory (MO) MO configuration of H_2, N_2, O_2 Bond order diamagnetism and paramagnetism~~	Van der Waals Forces, Hydrogen Bonding, Ion-Dipole Forces and Hydrophobic Interactions
4	**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.	
5	**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. Catalysis – homogenous, heterogeneous and enzyme catalysis, Industrial applications of enzyme catalysis.	

Percentage of Syllabus revised: 20 %

IDC Chemistry Syllabus Revision
Biotechnology

Name of the faculty: BAS **Board:** Chemistry
Semester: I **Course Code/Name: 26CEU1IB**
CHEMISTRY

Unit	Existing	Changes
I	**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 - Ostwald and quinonoid theory.	
2	**Acids and Bases** Acid base theories – Strength of acids and bases – Equilibrium constant and ionic constant of water- pH, pKa, pKb, Buffer solution, pH and pOH simple calculations.	
3	**Chemical Bonding** Types of bonding - Ionic Bond: Nature of ionic bond, factors influencing the formation of ionic bond, Covalent and coordinate bond - ~~Molecular Orbital Theory (MO) MO configuration of H_2, N_2, O_2 Bond order diamagnetism and paramagnetism~~	Van der Waals Forces, Hydrogen Bonding, Ion-Dipole Forces and Hydrophobic Interactions
4	**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.	
5	**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. Catalysis – homogenous, heterogeneous and enzyme catalysis, Industrial applications of enzyme catalysis.	

Percentage of Syllabus revised: 20 %

Syllabus Revision
ALL UG Students

Name of the faculty: BAS
Board: Chemistry
Semester: I
Course Code/Name: 26CEU1AA
ENVIRONMENTAL STUDIES

Unit	Existing	Changes
I	**Introduction to Environmental studies & Ecosystems** Components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance - Energy flow in an ecosystem: food chain, food web and ecological succession.	**Introduction to environmental studies & Natural resources** Definition, scope and importance, Need for public awareness. Natural Resources: Forest resources -Deforestation- Water resources – Over utilization of water- Land resources – Land degradation- Role of an individual in conservation of natural resources. Energy resources- Renewable (Solar, wind, Tidal, Biomass and Geothermal) and non-renewable (Petroleum, Coal, LPG and Natural gas) resources. Sustainable development goal for safe life style.
2	**Natural Resources: Renewable and Non-renewable Resources:** Land Resources and land use - Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Conflicts over water (international & inter-state). Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs.	**Ecosystems** Concept of an ecosystem - Structure and function of an ecosystem. Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of Forest ecosystem - Grassland ecosystem - Desert ecosystem - Aquatic ecosystems.
3	**Biodiversity and Conservation** Global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.	**Biodiversity and Conservation** Genetic, species and ecosystem diversity - Biogeographical classification of India. Biodiversity at global - National and local levels. India as a mega diversity nation - Hot-spots of biodiversity - Threats to biodiversity - Endangered and endemic species of India. In-situ and Ex-situ conservation of biodiversity.
4	**Environmental Pollution** Types, causes, effects and controls; Air, water, soil, chemical noise and E-pollution. Nuclear hazards and human health risks. Environment Laws: Environment Protection Act; Prevention & Control of Pollution Act – Air & Water. Wildlife Protection Act; Forest Conservation Act; Indigenous	**Environmental Pollution and Disaster management** Causes, effects and control measures of – Air – Water – Soil - Noise and E-pollution. Nuclear hazards and human health risks. Disaster management: floods, earthquake, cyclone and landslides.

	knowledge used for sustainable forest use. Disaster management: floods, earthquake, cyclone and landslides. Sustainable development goals.	
5	**Environmental ethics** Role of Indian and other religions and cultures in environmental conservation. 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.	**Social Issues and the Environment** From Unsustainable to Sustainable development. Urban problems related to energy. Water conservation - Rain water harvesting - Watershed management. Environmental ethics: Issues and possible solutions. Environment Protection Act - Air Act - Water Act - Wildlife Protection Act -Forest Conservation Act.

Percentage of Syllabus revised: 100 %

ATTENDANCE OF THE NINETEENTH BOARD OF STUDIES MEETING

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

S. No.	Name	Category	Signature
1	Dr. R. Ravikumar, Associate Professor & Head, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Chairman	02/04/26
2	Dr. T. Selvaraju, Associate Professor, Department of Chemistry, Bharathiar University, Coimbatore	University Nominee	02/04/26
3	Dr. R. Nandhakumar, Professor of Applied Chemistry, School of Sciences, Karunya Institute of Technology and Sciences, Coimbatore	Subject Expert	02/04/26
4	Dr. A. Thangamani, Associate Professor and Head, Department of Chemistry, Karpagam Academy of Higher Education, Coimbatore	Subject Expert	2-4-26
5	Er. R. Ezhilmaran, Technical Head & Unit In-Charge, Sudharsan Heavy Engineering Industries Chinnavedampatti, Coimbatore	Industry Expert	2-4-26
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	ABSENT
7	Dr. M.R. Ezhilarasi Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	Ezhilarasi 2/4/2026
8	Dr. M. Dinesh kumar Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	02/04/26

9	Dr. P. Kavitha Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	2/4/26
10	Dr. R. Menaka Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	2/4/26
11	Dr. V. Nijarubini Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	02/04/26
12	Dr. R. Rajkumar Assistant Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	
13	Dr. M. Mohanraj Associate Professor, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Internal Member	2/4/26
14	Dr. N. Kuppuchamy Professor and Head, Department of Tamil, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	2/4/26
15	Dr. A. Hazel Verbina Professor and Head, Department of English, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	2/4/26
16	Dr. D. Sridevi Professor and Head, Department of Food Science & Nutrition, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	2/4/26
17	Dr. P. Chidambara Rajan Professor and Head, Department of Biotechnology, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	2/4/26
18	Dr. S. Gowri Professor and Head, Department of Biochemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Co-opted Member	2/4/26
19	Mr. M. Pradeeshraj, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Student Representative	
20	Mr. G. Sanjith, Department of Chemistry, Dr. N.G.P Arts & Science College, Coimbatore-48	Student Representative	

Date: 02.04.2026

02/04/26

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

Dr.NGPASC
COIMBATORE | INDIA