



A.D.M. COLLEGE FOR WOMEN
(Autonomous)
Affiliated to Bharathidasan University
(Nationally Accredited with "A" Grade by NAAC – 3rd Cycle)
NAGAPATTINAM 611 001.

PG and RESEARCH DEPARTMENT OF CHEMISTRY

Programme: B.Sc., Chemistry

<i>PONo.</i>	<i>Programme Outcomes</i> <i>Upon completion of the B.Sc., Degree Programme, the Postgraduate will be able to</i>
PO-1	To develop interest in the study of chemistry as a discipline.
PO-2	To appreciate the achievements in chemistry and to know the role of chemistry in nature and in society.
PO-3	To be familiarized with the emerging areas of chemistry and their applications in various spheres of chemical sciences and to appraise the students of its relevance in future studies.
PO-4	To develop skills in proper handling of apparatus and chemicals.
PO-5	To be exposed to the different processes used in industries and their applications.

<i>PSO No</i>	<i>Programme Specific Outcomes</i> <i>Upon completion of these courses the Postgraduates would have</i>
PSO-1	To gain knowledge of chemistry through theory and practical's.
PSO-2	The programme provides backbone of Physical, Inorganic, Organic and Analytical chemistry.
PSO-3	Positive approach towards Environment from the chemistry perspective.
PSO-4	Entrepreneurial skills are developed in students so as to make them start their own industries / Business in core chemistry fields.
PSO-5	To explain nomenclature, stereochemistry, structures, reactivity and mechanism of the chemical reaction.

COURSE TITLE	CORE COURSE – I GENERAL CHEMISTRY-I		
CODE	QUA		
CO. No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To understand the address of the electron and the concept of indicators and dilution.	PSO 1,2	U
CO -2	To know the physical and chemical properties and uses of alkali metals, alkaline earth metals	PSO 1,2,8	R
CO -3	Recognize the basic practical skills for the synthesis of alkenes, alkynes, and cycloalkanes.	PSO 1,2,5	Ap
CO -4	Predict the geometry and hybridization of molecules in organic chemistry.	PSO 1,2,5,7	C
CO -5	Apply the concept and uses of gels and colloids in the applied field.	PSO 1,2,4,8	An

COURSE TITLE	CORE PRACTICAL – I VOLUMETRIC ANALYSIS		
CODE	QUBY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Understand the basic chemistry skills through quantitative analytical experiments	PSO 1,2,8	U
CO -2	The learners able to know the techniques of titrimetric analysis.	PSO 1,2,8	Ap

COURSE TITLE	CORE COURSE – II GENERAL CHEMISTRY - II		
CODE	QUC		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	The learners are able to predict the geometry of molecule.	PSO 1,2,5,7	R
CO -2	To equip the learners with concepts of s block elements through comparative study	PSO 1,2,5	U
CO -3	To know about the reaction mechanisms of aromatic and heterocyclic compounds.	PSO 1,2,5	Ap
CO -4	To know about the chemistry of Halogens.	PSO 1,2,4,5	An
CO -5	To know the fundamental concepts of atomic structure and basics of quantum mechanics.	PSO 1,2,4	U

COURSE TITLE	CORE COURSE – III GENERAL CHEMISTRY - III		
CODE	QUD		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To equip the learners with concepts of p block elements through comparative study.	PSO 1,2,3,4	An
CO -2	Physical and chemical properties of Pseudo halogen and Interhalogen compounds.	PSO 1,2,5	U
CO -3	Aware of the fundamental aspects of stereochemistry.	PSO 1,2,5	C
CO -4	To understand the aspects of gaseous state	PSO 1,2	An
CO -5	Learn about solids, their properties, close packing in crystals, use of X-rays in crystal structure determination and Properties of Liquid Crystal.	PSO 1,2,3,5	C

COURSE TITLE	CORE PRACTICAL II QUALITATIVE ANALYSIS (PRACTICAL)		
CODE	QUEY		
CO. No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Familiarize the test involving identification of Cations and Anions.	PSO 1,2	Ap
CO -2	To know the techniques for elimination of acid radicals.	PSO 1,2	An

COURSE TITLE	NON MAJOR ELECTIVE – I CHEMISTRY OF CONSUMER PRODUCTS		
CODE	QUE1		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To learn depth knowledge about soap and detergent. To make plastics and know about the properties and applications of plastics	PSO 1,3,4,8	Ap
CO -2	How to manufacture cosmetics	PSO 1,3,4,8	U
CO -3	To know the applications of paint and varnishes.	PSO 1,3,4,8	Ap
CO -4	To acquire the basic knowledge of classification, preparation and uses of dyes.	PSO 1,3,4,6,8	Ap
CO -5	To make plastics and know about the properties and applications of plastics	PSO 1,3,4,6,8	C

COURSE TITLE	CORE COURSE – VI GENERAL CHEMISTRY - IV		
CODE	QUF		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To learn about the compounds of d and f-block elements.	PSO 1,2,5	U
CO -2	To acquire the knowledge of preparation, properties and uses of Organometallic compounds.	PSO 1,2,5,6	Ap
CO -3	To know the chemical processes involved in the preparation of alcohols and ethers.	PSO 1,2,3,5,6,7	Ap
CO -4	To learn the thermodynamic principles and thermochemistry aspects.	PSO 1,2,7	An
CO -5	To gain knowledge about the rate of chemical reaction and its theory.	PSO 1,2,5,7	R

COURSE TITLE	NON MAJOR ELECTIVE – II FOOD SCIENCE		
CODE	QUE2		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Knowledge of food nutrition, health and awareness of nutritional problems in India.	PSO 1,3,8	U
CO -2	To analyze the biological importance and nutritional classification of food.	PSO 1,2,8	R
CO -3	To learn depth knowledge about constituent, biological functions of carbohydrates, proteins, fats, vitamins, minerals and water	PSO 1,2,8	U
CO -4	To identify the adulterants, present in food and their testing methods.	PSO 1,2,3,4,6,8	An
CO -5	To be able to recognize the principal adulterants and their health effects.	PSO 1,2,3,4,8	Ap

COURSE TITLE	SKILL BASED ELECTIVE – I PHARMACEUTICAL CHEMISTRY		
CODE	QUS1		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To know the terminology in Pharmaceutical chemistry.	PSO 1,3,5	U
CO -2	To understand the assay of drugs, administration of drugs.	PSO 1,2,3,5	Ap
CO -3	To classify drugs based on biological and chemical methods.	PSO 1,2,3,4,5	Ap
CO -4	To recognize the chemotherapy of some common diseases.	PSO 1,3,4,5	An
CO -5	To learn depth concepts of nutrients and organic pharmaceutical aids.	PSO 1,2,3,4,5	U

COURSE TITLE	CORE COURSE – VII INORGANIC CHEMISTRY - I		
CODE	QUG		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Understand the types of ligands & isomerism.	PSO 1,2,5	Ap
CO -2	Recognize the splitting of orbitals.	PSO 12,5	Ap
CO -3	Know the importance of coordination compounds.	PSO 1,2,5	An
CO -4	Recognize the structure and bonding of carbonyls and binary metallic compounds.	PSO 1,2,5	U
CO -5	Predict the magnetic properties of coordination compounds.	PSO 1,2,5,7	An

COURSE TITLE	CORE COURSE – VII ORGANIC CHEMISTRY - I		
CODE	QUH		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Learn about the reduction and oxidation reaction of carbonyl compounds	PSO 1,2,5,6,7	U
CO -2	Understand the preparation, properties and uses of carbonyl compounds	PSO 1,2,5,6,7	Ap
CO -3	Know about the chemistry of Nitrogen compounds	PSO 1,2,5,6,7	Ap
CO -4	Predict the structure of Heterocyclic compounds	PSO 1,2,5,6	An
CO -5	Aware the types of oxidizing and reducing agents	PSO 1,2,6,7	Ap

COURSE TITLE	CORE COURSE – VII PHYSICAL CHEMISTRY - I		
CODE	QUI		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Learn about Photochemistry	PSO 1,2,5,6	Ap
CO -2	Predict the symmetry elements and symmetry operations	PSO 1,2,5,6,7	Ap
CO -3	Apply the concept of Second law of thermodynamics	PSO 1,2,5,6,7	Ap
CO -4	Know the partial molar quantities.	PSO 1,2,3,5,6,7	Ap
CO -5	Recognize the component system using phase rule.	PSO 1,2,3	R

COURSE TITLE	CORE PRACTICAL - III PHYSICAL CHEMISTRY PRACTICAL		
CODE	QUJY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To understand the method of determination of critical solution temperature, transition temperature and rate constant.	PSO 1,2	U
CO -2	To learn the fundamentals of conductometric titration	PSO 1,2	An

COURSE TITLE	MAJOR BASED ELECTIVE – I ANALYTICAL CHEMISTRY		
CODE	QUE3		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Aware of Laboratory hygiene and safety.	PSO 1,2,3,8	U
CO -2	Predict the data analysis in analytical techniques	PSO 1,2,8	An
CO -3	Learn about separation and purification techniques	PSO 1,2,3,8	Ap
CO -4	.Recognize the thermo analytical methods such as TGA, DTA and analytical electrochemistry.	PSO 1,2,8	An
CO -5	Understand the colorimetric analysis and techniques in kinetics.	PSO 1,2,8	An

COURSE TITLE	SKILL BASED ELECTIVE – II APPLIED CHEMISTRY		
CODE	QUS2		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Develop an understanding about type of water.	PSO 1,2,3,4,8	U
CO -2	Experience in water analysis such as TDS, Total hardness, BOD and COD	PSO 1,2,8	An
CO -3	Expertise in Leather manufacture and processing.	PSO 1,2,3,4,8	Ap
CO -4	Learn about constituent physical and chemical properties of milk.	PSO 1,2,4,8	An
CO -5	Skills in preparation of dairy products such as butter, ghee, ice-cream.	PSO 1,4,8	U

COURS ETITLE	SKILL BASED ELECTIVE – III POLYMER CHEMISTRY		
CODE	QUS3		
CO No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To help students explore about polymers and macromolecules.	PSO1,2,3,4, 5,6,8	U
CO -2	To assess the molecular weight of polymers, structure and its stereochemistry.	PSO 1,2,5	An
CO -3	To recognize the kinetics of polymerization.	PSO 1,2,5	R
CO -4	To distinguish the natural and synthetic polymer.	PSO 1,2,3,4,8	Ap
CO -5	How to make plastics and resins.	PSO 1,2,3,4,6,8	Ap

COURSE TITLE	CORE COURSE – VIII ORGANIC CHEMISTRY -II		
CODE	QUK		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	The classification, properties, structure and configuration of mono, diand polysaccharides.	PSO 1,2,5	Ap
CO -2	The chemistry of proteins and vitamins.	PSO 1,2,3	An
CO -3	The importance of alkaloids and terpenoids.	PSO 1,2,3,5	Ap
CO -4	Predicting the molecular rearrangements with its types and mechanism.	PSO 1,2,5	U
CO -5	The fundamental principles of UV-Vis, IR and NMR spectroscopy.	PSO 1,2,5	An

COURSE TITLE	CORE COURSE – X PHYSICAL CHEMISTRY -II		
CODE	QUL		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Knowledge of electrical conductance with its applications.	PSO 1,2	Ap
CO -2	Learn depth about electrochemical cells and electrodes.	PSO1,2	An
CO -3	The applications of catalysis and isotherms	PSO 1,2	Ap
CO -4	The use of UV spectroscopy and applications of IR and UV in chemical compounds.	PSO 1,2	U
CO -5	The fundamental application of Raman and NMR spectroscopy.	PSO 1,2	An

COURSE TITLE	MAJOR BASED ELECTIVE – II NUCLEAR, INDUSTRIAL CHEMISTRY & METALLIC STATE		
CODE	QUE4		
CO No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Acquire knowledge of nuclear structure, stable and unstable atomic nuclei.	PSO 1,2	U
CO -2	Know the fundamentals of radioactivity, isotopic chemistry, radiation chemistry and the applications of these in medicine, agriculture and industry.	PSO 1,2,3	An
CO -3	Learn about the fossil fuels, safety matches, paints and varnishes.	PSO 1,2,3	Ap
CO -4	Handle the semiconductors.	PSO 1,2,3	Ap
CO -5	Gain a preliminary understanding of inorganic polymers.	PSO 1,2	Ap

COURSE TITLE	CORE PRACTICAL - IV GRAVIMETRIC & ORGANIC ANALYSIS		
CODE	QUMY		
CO No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	To know the technique of organic qualitative analysis.	PSO 1,2	An
CO -2	To learn the determination of Physical constants of organic compounds.	PSO 1,2	Ap

COURSE TITLE	MAJOR BASED ELECTIVE – III AGRICULTURAL CHEMISTRY		
CODE	QUE5		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Students acquire the basic knowledge of Composition, Physical and Chemical properties of soil.	PSO 1,3	U
CO -2	Students able to understand the secondary and micronutrient fertilizer.	PSO 1,2,3,5	Ap
CO -3	Students can accumulate skills about green manure.	PSO 1,2,3	Ap
CO -4	Students should be able to apply the knowledge of Pest Management and control.	PSO 1,3,4,5	U
CO -5	Students should know the preparation and applications of fungicides and herbicides.	PSO 1,2,3,5	Ap



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PG AND RESEARCH DEPARTMENT OF CHEMISTRY

Programme: M.Sc.,

<i>PSO No</i>	<i>Programme Outcomes</i> <i>Upon completion of the M.Sc. Degree Programme, the graduate will be able to</i>
PSO-1	Introduce advance techniques and ideas required in developing area of chemistry.
PSO-2	Provide theoretical background and develop practical skills for analyzing materials using modern analytical methods and instruments.
PSO-3	Inculcate a problem solving approach provide coordinating the different branches of chemistry.
PSO-4	Effectively communicate themes relating to chemistry
PSO-5	Proficient in their specialized area of chemistry and acquire the basic tools needed to carry out.

<i>PONo.</i>	<i>Programme Specific Outcomes</i> <i>Upon completion of these courses the student would</i>
PO-1	Acquire knowledge in major areas of chemistry.
PO-2	Perform chemical analysis to determine composition of various chemical compounds.
PO-3	Use knowledge of chemistry for solving problems in environmental, food processing, pharmaceutical, biochemical, agriculture, fuels and chemicals, textile processing, mining and many other industries.
PO-4	Use modern tools and techniques in literature survey, designing synthesis and characterizing crystals.
PO-5	Manage information, develop technical reports and make presentations.

COURSE TITLE	CORE COURSE –I INORGANIC CHEMISTRY – I		
CODE	PGQA		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Gain the knowledge in the field of stereochemistry.	PSO2	R
CO -2	To introduce synthetic methodology of preparation of compounds.	PSO2	U
CO -3	Discuss the various methods of determination of Reaction mechanism.	PSO3,4	AP
CO-4	Explain the criteria for Chirality and discuss axial, Planar and helical chirality	PSO5	AP
CO-5	Discuss the photochemistry of pi-pi* transitions	PSO3	C

COURSE TITLE	CORE COURSE –II ORGANIC CHEMISTRY – I		
CODE	PGQB		
CO No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Gain idea about the recent advances in Inorganic chemistry	PSO4,5	U
CO -2	Identify the synthesis, structure and bonding of carbon-pi-donor complexes	PSO4,5	AN
CO -3	Calculate magnetic moment & crystal field Stabilization energy of metal complexes.	PSO5	AP
CO -4	Explain about different type of electron transfer Reaction (one electron transfer reaction & direct electron transfer reaction) and factors affecting them.	PSO4	U
CO-5	Acquire knowledge about the basic principles of photo inorganic chemistry	PSO2	AP

COURSE TITLE	CORE COURSE –III PHYSICAL CHEMISTRY – I		
CODE	PGQC		
CO.No	Course Outcomes	PSOs Addressed	CognitiveLevel
CO -1	Identify the point groups of molecules and apply the concept of group theory to predict the spectroscopic properties.	PSO1,3	AP
CO -2	Explain the concept of black body radiation, operators, commutation of Operators, Eigen function, Eigen value and well behaved function.	PSO2	U
CO -3	Learn the concept of entropy, 3rd law of thermodynamics & evaluation of absolute entropy from heat capacity data	PSO5	AP
CO -4	Give the concept of distribution and probability and derive Boltzmann distribution law.	PSO5	AN
CO -5	Describe types of photo chemical reactions and Photo Sensitization reaction.	PSO1	AP

COURSE TITLE	CORE COURSE –IV INORGANIC CHEMISTRY – II		
CODE	PGQF		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Apply the basic principles in bioinorganic chemistry.	PSO-5	U
CO -2	Illustrate the role of metal in biological system and their function.	PSO-4	AP
CO -3	Describe the structural and functional relationship, mechanisms and importance of metalloenzymes.	PSO-7	AP
CO -4	Tabulate the role of metal ions in enzymes involved in acid-base reactions.	PSO-4	AP
CO -5	Explain the role of metal ions that are involved in electron –transfer reactions in biological systems.	PSO-3	AP

COURSE TITLE	CORE PRACTICAL-I ORGANIC CHEMISTRY PRACTICAL – I		
CODE	PGQDY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Performing the chromatography by which complex mixtures are separated are analyzed.	PSO2	AN
CO -2	Doing the estimation of chemicals for knowledge about of concentration and purity.	PSO6	AP

COURSE TITLE	CORE PRACTICAL-II INORGANIC CHEMISTRY PRACTICAL I		
CODE	PGQEY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Understand advanced method of estimation of metal ions through complexation	PSO2	AN
CO -2	Acquire knowledge about colorimetric analysis.	PSO2	AP

COURSE TITLE	CORE COURSE –V PHYSICAL METHODS IN CHEMISTRY -I		
CODE	PGQG		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Describe the selection rule for Infrared -active transitions.	PSO-5	U
CO -2	Compare and contrast atomic and molecular spectra.	PSO-2	AP
CO -3	Apply spectral concepts to solve the problems, elucidate structures of simple compounds	PSO-4	AP
CO -4	Perform the most commonly used NMR experiment to interpret and document their results.	PSO-4	AP
CO -5	Gain knowledge of the fine structure of ESR absorption, Hyperfine structure, Double resonance in ESR and techniques of ESR spectroscopy.	PSO-1	AN

COURSE TITLE	COREPRACTICAL-III INORGANIC CHEMISTRY PRACTICAL -II		
CODE	PGQHY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Study the estimation of chemicals, which provide knowledge about the purity and concentration	PSO-2	AN
CO -2	Expertise in organic synthetic methods	PSO-3	AP

COURSE TITLE	CORE PRACTICAL-IV INORGANIC CHEMISTRY PRACTICAL -II		
CODE	PGQIJ		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Develop skills in systematic qualitative analysis of mixture,	PSO-2	AN
CO -2	The students will get training in the complexometric titration	PSO-3	AP
CO -3	Gains the skill to prepare inorganic complexes.	PSO-4	AP

COURSE TITLE	ELECTIVE COURSE-I NON – COVENTIONAL ENERGY SOURCES		
CODE	PGQE1		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Ensure the students understand the basic concept of energy.	PSO-1	R
CO -2	Understand the solar devices such as solar cooker, solar waterheater.	PSO-3	U
CO -3	Get awareness about the wind energy and conversion to the generation of power.	PSO-4	AP
CO -4	An introduction of composition of biogas and generation of power.	PSO-6	U
CO -5	Study about the principles of geothermal and tidal power plant	PSO-5	AP

COURSE TITLE	CORE COURSE –VI ORGANIC CHEMISTRY – II		
CODE	PGQJ		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Acquire knowledge about nucleophilic substitution reactions.	PSO-2,4	U
CO -2	Learn nomenclature synthesis and reactivity of hetero cyclic compounds	PSO-2,3	AP
CO -3	Elucidate the structure and synthetic route of heterocyclic compounds	PSO-1	AP
CO -4	Learn the different types of alkaloids, glycosides and terpenes etc.. and their chemistry and medicinal importance.	PSO-1,4	AP, U
CO -5	CO 5:Learn advanced methods of structural elucidation of compounds of natural origin.	PSO-1,5	AN

COURSE TITLE	CORE PRACTICAL –V PHYSICAL CHEMISTRY PRACTICAL– I		
CODE	PGQLY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Draw the phase diagram 3 component systems and analyze it	PSO-2,4	AN
CO -2	Determine the kinetics of the reactions	PSO-3,2	AN
CO -3	Predict the concentration of two analytes in a mixture	PSO-2,6	AP

COURSE TITLE	CORE COURSE –VII PHYSICAL CHEMISTRY – II		
CODE	PGQK		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Understands the various theories of electrolytic conductance	PSO-2,4	U
CO -2	Recognizes the dynamics of electrode reaction	PSO-2,3	AP
CO -3	Learns the classical status of thermodynamics	PSO-1	AP
CO -4	Appreciates the fundamentals of molecular thermodynamics	PSO-1,4	AP
CO -5	Estimates the basis of chemical surfaces	PSO-1,6	AN
CO -6	Understand of the quantum chemistry of free electron and H-atoms.	PSO-1,5	U

COURSE TITLE	ELECTIVE COURSE -II INDUSTRIAL CHEMISTRY		
CODE	PGQE2		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Identify and understand the unit operations involved in a process	PSO-4,1	U
CO -2	Design common heat exchangers like double pipe and shell & tube to determine relevant design parameters	PSO-1,3	AP
CO -3	Understand the commercial processes used for the refining and processing of natural gas and crude petroleum	PSO-4,8	AP
CO -4	Solve materials and energy balances alone and simultaneously on chemical process system	PSO-1,6	AN
CO -5	Identify and understand the unit operations involved in a process	PSO-4,1	U

COURSE TITLE	ELECTIVE COURSE –III GREEN CHEMISTRY		
CODE	PGQE3		
CO. No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Explain Green chemistry and sustainability which relates to problems of societal concern.	PSO-2,3	U
CO -2	Designed of chemical products and processes that reduce or eliminate the use and generation of hazardous substances.	PSO-3,5	AP
CO -3	Describe Green chemistry and sustainability developments that affect society, the environment and economic development.	PSO-5	AP
CO -4	Analyze a process and identify parameters that make environmentally friendly/ sustainable /green.	PSO-3,4	AP
CO -5	Integrate, synthesize, and apply knowledge of the relationship between science and technology and societal issues in both focused and broad interdisciplinary contexts.	PSO-4	AN

COURSE TITLE	Core Course-VIII PHYSICAL METHODS IN CHEMISTRY II		
CODE	PGQM		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Explain the general features of absorption and photo electron spectra and their dependence on the sample properties.	PSO-5	U
CO -2	Able to describe molecular vibration with the interaction of matter and electromagnetic waves.	PSO-4	AN
CO -3	Understand concept of NMR spectroscopy and its applications.	PSO-5	AN
CO -4	Acquire knowledge about EPR spectroscopy and magnetism.	PSO-3	AP
CO -5	Learn principles and applications of Mossbauer Spectroscopy.	PSO-5	AP

COURSE TITLE	Core practical-VI PHYSICAL CHEMISTRY PRACTICAL- II		
CODE	PGQNY		
CO.No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Understand conductometric titrations of: Strong acid Vs. strong base (ii) Weak acid vs. strong base, (iii) Mixture of strong acid and (iv) weak acid vs strong base, Strong acid vs. weak base.	PSO-5	AN
CO -2	Develop skills in Potentiometric titrations of: (i) Strong acid vs .strong base (ii) Weak acid vs. Strong base	PSO-4	AP

COURSE TITLE	ELECTIVE COURSE –IV APPLIED CHEMISTRY		
CODE	PGQE4		
CO.No	Course Outcomes	PSOs Addressed	CognitiveLevel
CO -1	Able to work in quality control or analytical laboratories.	PSO-5	U
CO -2	Identify industrial problems related to chemistry and find solutions for them	PSO-4	AN
CO -3	Gain knowledge about paints and vehicles	PSO-5	AN
CO -4	Reduce waste generation, effective handlings utilization and recycling of waste	PSO-3	AP
CO -5	Explain the relationship between the structure and biological activity of drug molecule.	PSO-5	AP

COURSE TITLE	CORE COURSE – VIII RECENT TRENDS IN CHEMISTRY		
CODE	PGQE5		
CO. No	Course Outcomes	PSOs Addressed	Cognitive Level
CO -1	Provide perspectives on future Nano chemistry developments	PSO-3,5	AP
CO -2	Follow new developments in material application field.	PSO-4,5	AP
CO -3	Explain importance of materials in materials science and scientific field.	PSO-5	U
CO -4	A functional understanding of the field of green chemistry.	PSO-5	AP
CO -5	Chemoinformatics is a rather new discipline in science. It has been described as the application of informatics methods to solve chemical problems.	PSO-5	U