PALAMURU UNIVERSITY
Mahbubnagar , 509 001. Telangana,
Department of M.Sc., Five Year Integrated Chemistry

Programme OUTCOMES:

The student of after completing the programme, will be able to

1. Grow as a successful professional, researcher and apply the knowledge of chemistry for the welfare of mankind and for the development of the country.
2. Analyze the problems, design and develop solutions to safeguard the human health and protect environment.
3. Able to use modern IT tools in teaching and research.
4. Work as member and also as a team leader in the teams of gender, linguistic, regional and national diversity with an ability of effective communication in multidisciplinary environments.
5. Practice professional and human ethical principles and follow the norms with responsibility and be a lifelong learner.

COURSE OUTCOMES
SEMESTER-I
I. English (1T1)
After completion of the course
1. The student will be able to understand the poetry
2. The students are in a position to understand the prose by which they can read and write
3. The student can apply the grammer and understand the active voices, tenses, parts of speech
4. They would acquire the knowledge of the grammer related to phrasal words, concord, articles, idioms and rewriting of the sentences

II. Telugu (1T2)
After completion of the course
1. The student will be able to understand the lessons sanjayarayabharamu and kuchelopaakhyanamu
2. The student will acquire the knowledge of the lesson Satyabhama saanthvanamu
3. The student will be able to understand the lesson sitaparithyagamu
4. The student will acquire the knowledge of vyakaranamu which includes sandhulu and samaasalu

III. Political science (1T3)
After completion of the course
1. The student will be able understand the meaning of democracy and constitution.
2. The student will acquire the knowledge of the democratic institutions and its salient features
3. The student will be able to understand the fundamental rights and fundamental duties

4. The student will acquire the knowledge of the significance of human rights, organisation of Supreme Court

IV. Mathematics-I (1T4)

After completion of the course

1. The student will be able to understand the definition of mathematics functions
2. The student will acquire the knowledge of the matrices
3. The student will acquire the knowledge related to trigonometry and vector algebra through some simple problems
4. The student will be able to understand the quadratic expressions.

V. Mathematics-II (1T4)

After completion of the course

1. The student will be able to understand the Cartesian coordinates
2. The student will acquire the knowledge related to equation of circle in various forms
3. The student can apply the limits and solve simple applications of them
4. The student will be able to understand the definition, identification of integral function and solving of integrals

VI. Biology-I (1T5)

After completion of the course

1. The student will be able to understand the principles and characteristics of taxonomy, evolution of animal body plan and animal associations
2. The student will acquire the knowledge pertaining to identification of poisonous and non-poisonous snakes
3. The student will be having knowledge regarding the general characters and classification of chordate and rabbit
4. The student will acquire the knowledge regarding the tissues and histology and function of the human parts

VII. Biology-II (1T5)

After completion of the course

1. The student will be able to understand the general characters and brief life history of one representative each of prokaryotes and eukaryotes
2. The student will be having knowledge pertaining to internal morphology related to cell and tissue system and also to cell division
3. The inheritance of Mendelism and nucleic acids will be understood
4. The student will be able to understand the topics such as photosynthesis, phytohormones, taxonomy and economic botany of magnoliophyte

VIII. Computer science (1T6)

After completion of the course

1. The student will acquire the knowledge related to computer fundamentals
2. The student will know the basics related to MS word.
3. The student will be having brief introduction on MS power point regarding working with text, graphs
4. The student will be able to understand the MS access

IX. Physics (1T7)

After completion of the course

1. The students will be able to understand the meaning of interference and various terms involved in it
2. The students will acquire the knowledge related to diffraction experiments and also the diffraction
3. The student will be able to understand the meaning of polarization and various laws concerning to it
4. The students will be having the basic knowledge of what is meant by laser, fibre optics and radiation

X. Chemistry (1T8)

After completion of the course student will be able to

1. Understand about the structure and reactivity of benzene, naphthalene and anthracene
2. Understand the basic chemistry of halogen compounds
3. The student will acquire the fundamental knowledge concerning to liquids, gaseous and liquid mixtures
4. The student will be able to understand the periodic properties of p-block elements and also about quantitative analysis

XI. Physics Lab (1P1)

After completion of the course

1. The student will be able to determine g value using compound and measure errors using simple pendulum
2. The student will be able to find the resolving power of telescope and measure diffraction grating using lasers
3. The student will be able to understand the minimum deviation method using diffraction grating
4. The student will be able to determine the frequency of AC supply applying sonometer

XII. Chemistry Lab (1P2)

After completion of the course

1. The student will be able to prepare and standardise the sodium carbonate and bicarbonate
2. The student will be able to estimate carbonate, bicarbonate, ferrous, ferric and alkali content
3. The student will be able to estimate copper using iodometry
4. The student will be able to find the hardness of water

SEMESTER-II

I. English (2T1)

After completion of the course

1. The student will be able to understand the drama and novel
2. The student will acquire the knowledge related to literary terms and other terms
3. The student will be able to understand the limits and simple applications of composition-1
4. The student will be able to understand the definition, identification of composition-2

II. Telugu (2T2)

After completion of the course

1. The student will be able to understand the Snehalatha-Rayaprolu Subbarao
2. The student will acquire the knowledge related to Agnidara and Vasanthoshvam-karpura vasantharayalu-prathamaswasamu

3. The student will be able to understand the limits and simple applications of essay writings of swabhasa, Telugu suravaram Prathapa Reddy, and revolution of Indian reliving
4. The student will be able to understand the definition, identification of stories of Gurajada, madhuranthakam, kalyana sundari jagannatham

III. Community Development (2T3)

After completion of the course

1. The student will be able to understand the science of society
2. The student will acquire the knowledge related to socio-culture bases of knowledge
3. The student will be able to understand the limits and simple applications of socio-economic
4. The student will be able to will be able to understand the definition, identification of sociology of rural development and Types of productive system

IV. Computer Science (2T4)

After completion of the course

1. The student will be able to understand the introductory concepts
2. The student will acquire the knowledge related to data input and output
3. The student will be able to understand the limits and simple applications of functions
4. The student will acquire the knowledge related to definition, identification of pointers

V. Mathematics (2T5)

After completion of the course

1. The student will be able to understand the metrics
2. The student will acquire the knowledge related to beta and gamma functions
3. The student will be able to understand the limits and simple applications of definition and examples of Groups
4. The student will be able to understand the definition, identification of coordinate planes and increasing function and decreasing function

VI. Physics (2T6)

After completion of the course

1. The student will be able to understand the electrostatics
2. The student will acquire the knowledge related to magneto statistics and electromagnetic induction
3. The student will be able to understand the limits and simple applications of varying, alternating currents and electromagnetic waves
4. The student will be able to understand the definition, identification of quantum physics

VII. Chemistry (2T7)

After completion of the course

1. The student will be able to understand the chemical bonding and chemistry of p-block elements-
2. The student will acquire the knowledge related to hydroxy compounds and carbonyl compounds
3. The student will be able to understand the limits and simple applications of Colligative properties
4. The student will be able to understand the definition, identification of colloids

VIII. Physics Lab (2P1)

After completion of the course

1. The student will be able to understand the Newton's rings
2. The student will acquire the knowledge related to determination of plank's constant
3. The student will be able to understand the limits and simple applications of temperature characteristics of a thermister
4. Will be able to understand the definition, identification of Growth and decay of current in an re circuit-determination of time constant

IX. Chemistry Lab (2P2)

After completion of the course

1. The student will be able to understand the semi-micro qualitative analysis of inorganic sail mixture
2. The student will acquire the knowledge related to identification of cataions
3. The student will be able to understand the limits and simple applications of anions
4. The student will be able to will be able to understand the definition, identification of binary mixtures

X. Computer Science Lab (2P3)

After completion of the course

1. The student will be able to understand the MS-WORD
2. The student will acquire the knowledge related to MS-EXCEL
3. The student will be able to understand the limits and simple applications of Power Point
4. The student will be able to understand the definition, identification of Access

SEMESTER-III

I. Communication Skills (3T1)

After completion of the course

1. The student will be able to understand vowel sounds of monophthongs and diphthongs.
2. The student will be able to understand about phonetic transcription.
3. The student will acquire the fundamental knowledge of communication Skills.
4. The student will gain the knowledge of telephone skills

II. Economics (3T2)

After completion of the course

1. The student will gain the knowledge of nature and scope of economics
2. The student will be able to understand about market structure and competition
3. The student will acquire the fundamental knowledge of macro economics and finance
4. The student will be able to understand international trades

III. Environmental studies (3T3)

After completion of the course

1. The student will be able to importance of environment and awareness
2. The student will be able to understand about Food, Energy, Land resources
3. The student will acquire the fundamental knowledge of Ecosystem and pollution
4. The student will gain the knowledge of Environmental protection Acts

IV. Computer Science (3T4)

After completion of the course

1. The student will gain the knowledge of basic concept of database environment
2. The student will be able to understand about modelling data in the organizations

3. The student will acquire the fundamental knowledge of logic data base design and relational model
4. The student will be able to understand SQL environment

V. Mathematics (3T5)

After completion of the course

1. The student will be able to understand power series
2. The student will be able to understand about ordinary differential equations of first order
3. The student will acquire the fundamental knowledge second order of linear equations
4. The student will gain the knowledge of vector calculus

VI. Physics (3T6)

After completion of the course

1. The student will gain the knowledge of basic concept of solid state physics
2. The student will be able to understand about nuclear physics
3. The student will acquire the fundamental knowledge of digital principles
4. The student will be able to understand semiconductors and devices

VII. Chemistry (3T7)

After completion of the course

1. The student will acquire the fundamental knowledge of d-block and f-block elements and theories of metallic bond.
2. The student will gain the knowledge of basic concept of carboxylic acids and esters reactivity
3. The student will be able to understand aliphatic and aromatic amines and reactivity
4. The student will be able to understand about thermodynamic systems and electrochemistry

VIII. Physics (3P1)

After completion of the course

1. The student will gain the knowledge of basic concept of measurement of voltage, frequency and phase
2. The student will be able to understand about LCR series and circuits
3. The student will acquire the fundamental knowledge of p-n junction diode
4. The student will be able to understand logic gates

IX. Chemistry Lab (3P2)

After completion of the course

1. The student will be able to understand oxidation and esterification
2. The student will be able to understand about acetylation of salicylic acid, aniline
3. The student will acquire the fundamental knowledge of preparation of benzilidine aniline
4. The student will gain the knowledge of electrophilic substitution and nitration of benzene

X. Computer science Lab (3P3)

After completion of the course will be able to

1. The student will gain the knowledge of creation and modification tables
2. The student will be able to understand about programming language basics
3. The student will acquire the fundamental knowledge of controls and exceptions
4. The student will be able to understand SQL and control structures of PL/SQL

SEMESTER-IV

I. Communication skills (4T1)

After completion of this course

1. The student will be able to understand the listening skills
2. The student will be able to understand the speaking skills
3. The student will acquire the knowledge of communication skills
4. The student will be able to understand the telephone skills

II. Entrepreneurship (4T2)

After completion of this course

1. The student will be able to understand the definition, need, scope and functions of interrelationship among various branches of accounting and financial accounting
2. The student will be able to understand the meaning, definition and functions of management-planning, organizing, staffing, coordination and control
3. The student will acquire the knowledge of entrepreneurship and environment
4. The student will be able to understand the institutions for entrepreneurship development-role of consultancy-organizations

III. Computer science (4T3)

After completion of this course

1. The student will be able to understand the concept of windows and visual basic controls
2. The student will be able to understand the concepts in visual basic6
3. The student will acquire the knowledge of printing and creating menu structure
4. The student will acquire the knowledge of graphics, images and pictures and also get the knowledge of handling data bases

IV. Mathematics (4T4)

After completion of this course

1. The student will be able to understand the differences and Newton's formula for unequal intervals lag ranger's formula for interpolation
2. The student will acquire the knowledge of general quadrature formula-trezoidal rule
3. The student will be able to understand the periodic function-fourier series
4. The student will be able to understand the of functions of complex variable-limits-continuity

V. Biology (4T5)

After completion of this course

1. The student will be able to understand about definition, scope and history of microbiology and also different types of microorganism's classification and differences
2. The student will acquire the knowledge of microbe's importance in food microbiology, range of fermentation process and microorganisms of the environment
3. The student will be able to understand the concept of Biotechnology, DNA RNA material, structure and forms of DNA
4. The student will get the knowledge of Genetic code, regulation of gene expression in prokaryotes and eukaryotes

VI. Chemistry (4T6)

After completion of this course

1. The student will be able to understand the concepts of carboranes, metallocarboranes and HSAB rule and classification of ligands and metals

2. The student will acquire the fundamental knowledge of heterocyclic compounds and amino acids and proteins
3. The student will be able to understand about electrochemistry and phase rule concepts
4. The student will be able to understand non aqueous solvents characteristics.

VII. Biology Lab (4P1)

After completion of this course

1. The student will be able to understand the isolation of microorganisms from soil, water and air
2. The student will be able to acquire the knowledge of determination of blood groups and Rh typing
3. The student will be able to understand the estimation of streptomycin and ethyl alcohol
4. The student will be able to understand about isolation of plant DNA and plasmid DNA.

VIII. Chemistry Lab (4P2)

After completion of this course

1. The student will be able to understand the different instrumental analysis.
2. The student will acquire the knowledge of properties of liquids like density, viscosity, surface tension and refractive index
3. The student will be able to understand the conduct metric titrations
4. The student will be able to understand the knowledge of potentiometric titrations

IX. Computer Science Lab (4P3)

After completion of this course

1. The student will be able to understand the visual programming
2. The student will be able to understand the concepts in visual basic6
3. The student will acquire the knowledge of printing and creating menu structure
4. The student will be able to understand of graphics, images and pictures and also get the knowledge of handling data bases

X. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

SEMESTER-V

I. Statistics (5T1)

After completion of the course

1. The student will be able to understand about graphical representation of graphs, different mean theories and correlation coefficients and its properties
2. The student will gain the knowledge about mathematical, statistical and axiomatic definitions, bayes theorem with simple examples
3. The student will acquire the fundamental knowledge of mean, mode, and mean deviation about mean and its applications
4. The student will be able to understand cumulative distribution function and their properties

II. General Chemistry (5T2)

After completion of the course

1. The student will be able to understand about chromatography and ion exchange techniques
2. The student will gain the knowledge about atomic absorption, atomic emission and ICP-AES methods of analysis
3. The student will acquire the fundamental knowledge of thermal methods analysis and solvent extraction methods
4. The student will be able to understand solvent extraction methods

III. Inorganic Chemistry (5T3)

After completion of the course

1. The student will be able to understand about nomenclature and isomerism of coordination compounds and gain the knowledge about different theories in coordination compounds
2. The student will gain the knowledge about salient features of crystal field theory, john teller distortion and basic information about molecular orbital theory
3. The student will acquire the fundamental knowledge about chemistry of oxygen and interhalogen compounds and basic knowledge about xenon and its compounds
4. The student will be able to understand molecular orbital theory

IV. Organic Chemistry (5T4)

After completion of the course

1. The student will be able to understand about carbohydrates chemistry
2. The student will gain the knowledge about salient features of reaction mechanism by studying different type of reactions in organic chemistry
3. The student will acquire the fundamental knowledge about chemistry of alkaloids
4. The student will be able to understand the chemistry of terpenes

V. Physical Chemistry (5T5)

After completion of the course

1. The student will be able to understand about rate of the reactions, different order of the reactions, effects of different parameters on chemical reactions
2. The student will gain the knowledge about statistical thermodynamics
3. The student will acquire the fundamental knowledge about photo chemistry by studying beer law, beers lamberts law, Jablonsky diagram
4. The student will be able to understand solid state chemistry

VI. Inorganic Chemistry Lab (5P1)

After completion of the course

1. The student will be able to understand about preparation and characterization of complexes
2. The student will gain the knowledge about estimation of Ni and Al metals by EDTA
3. The student will acquire the fundamental knowledge about estimation of Ca metal by EDTA
4. The student will be able to understand EDTA back-titrations

VII. Organic Chemistry Lab (5P2)

After completion of the course

1. The student will be able to understand preparation of benzanilide, benzophenonoxime
2. The student will gain the knowledge about preparation of benzilic acid
3. The student will acquire the fundamental knowledge about anthranilic acid
4. The student will be able to understand preparation of o-chloro benzoicacid

VIII. Physical Chemistry Lab (5P3)

After completion of the course

1. The student will be able to understand about comparison of rate constants at different acids
2. The student will gain the knowledge about conduct metric titrations
3. The student will acquire the fundamental knowledge about colorimetric methods
4. The student will be able to understand conductometric titration of strong acid Vs strong base

IX. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

SEMESTER-VI

I. Pharmacology (6T1)

After completion of the course

1. The student will be able to understand the basic concepts of pharmacology
2. The students will understand the action of drugs acting on nervous system
3. The students will be able to acquire the knowledge about drugs and their usage acting on cardiovascular system and gastrointestinal tract
4. The student will be able to understand gastrointestinal tract

II. General Chemistry (6T2)

After completion of the course

1. The student will be able to understand symmetry and group theory
2. The students will be able to understand the complete concept of microwave spectroscopy
3. The student will acquire the knowledge of Ultraviolet-Visible spectroscopy its instrumentation and its applications
4. The student will be able to understand determination of composition of complexes by job's slope ratio method

III. Inorganic Chemistry (6T3)

After completion of the course

1. The student will be able to understand, co-ordination chemistry especially about metal – ligand equilibrium in solution and HSAB rule and its applications
2. The students will acquire knowledge about co-ordination chemistry and the electronic spectra of metal complexes
3. The students will understand magneto chemistry and magnetic susceptibility measurements and also learn about orbital contribution to magnetic moment and quenching of orbital angular momentum by ligand fields
4. The student will be able to understand quenching of orbital angular momentum by ligand fields

IV. Organic Chemistry (6T4)

After completion of the course

1. The students will be able to understand the complete concept of stereochemistry
2. The students will acquire the fundamental knowledge about chemistry of polypeptides and proteins

3. The students will understand about non-benzenoid aromatic compounds, its synthesis and properties of 3, 4, 5, 6, 7, 8 membered rings
4. The student will be able to understand alternate and non-alternate hydrocarbons

V. Physical Chemistry (6T5)

After completion of the course

1. The students will understand the complete concept of thermodynamics-II
2. The students will acquire knowledge about statistical thermodynamics and quantum statistics
3. The students will understand the thermodynamics criteria for non-equilibrium
4. The student will be able to understand irreversible thermodynamics

VI. Inorganic Chemistry Lab (6P1)

After completion of the course

1. The students will learn the analysis of Ores like; Haematite, Limestone and Dolomite by different methods
2. The students learn the analysis of complex materials like; Brass and Cement
3. The students will learn the solvent extraction methods for Ni, Fe, Pb from Ni-DMG complex, Fe-oxine and Pb-dithiazone complexes respectively
4. The student will be able to understand estimation of percentage of Ca in Limestone by ozalate method

VII. Organic Chemistry Lab (6P2)

After completion of the course

1. The students will learn about identification of acid compounds
2. The student will be able to understand identification of amine compounds
3. The student will be able to understand identification of carbonyl compounds
4. The student will be able to understand identification of aromatic compounds

VIII. Physical Chemistry Lab (6P3)

After completion of the course

1. The students will learn about kinetics of per sulphate –Iodide reaction
2. The students will learn to carry out conduct metric titrations
3. The students will learn about determination of heat of solution of benzoic acid by solubility method
4. The students will learn to carry out the distribution of benzoic acid between benzene and water

IX. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

SEMESTER-VII

I. General Chemistry (7T1)

After completion of the course

1. The student will be able to understand the Infrared and Raman spectroscopy

2. The students are in a position to elucidate the structures of unknown organic compounds by NMR spectroscopy
3. The student will be able to understand the instrumentation of mass spectroscopy and determination of molecular formula of unknown compounds.
4. The student would acquire the knowledge of the photoelectron, AUGER electron & Mossbauer spectroscopy

II. Inorganic Chemistry (7T2)

After completion of the course

1. The student will be able to understand the dinuclear, trinuclear and tetranuclear clusters of Mo, Re, W with chlorides and alkoxides
2. The student will be able to understand the Properties of electronically excited metal complexes
3. The student will acquire the knowledge of the symmetry properties and construction of character tables
4. The student will acquire the knowledge of preparation, bonding and structures of dioxygen complexes

III. Organic Chemistry (7T3)

After completion of the course

1. The student will be able understand the use of the various reagents in the organic synthesis and fuctional group transformations
2. The student will be able to understand the reaction mechanisms
3. The student will be able to understand the structure, reactivity and functions of heterocyclic compounds
4. The student will be able to understand the significance of dynamic stereo chemistry

IV. Physical Chemistry (7T4)

After completion of the course

1. The student will be able to understand the definition and significance of adsorption
2. The student will be able to understand the mechanism and types of phase transfer catalysed reactions
3. The student will acquire the knowledge related to quantum chemistry
4. The student will be able to understand the kinetics of isotopes

V. Inorganic Chemistry Lab (7P1)

After completion of the course

1. The student will be able to understand the gravimetric estimation of iron as iron (III) oxide barium as barium (II) sulphate, copper as cu (I) thiocyanate
2. The student will acquire the knowledge related to gravimetric estimation of nickel as Ni(II) dimethyl glyoximate, magnesium as magnesium(II) 8-hydroxy quinolate
3. The student will be able to understand the determination of Cu^{2+} Ni^{2+}determination of Fe^{3+} Al^{3+}
4. The student will be able to understand the determination of Cu^{2+} Zn^{2+}determination of ferrocyanide and ferricyanide

VI. Organic Chemistry Lab (7P2)

After completion of the course

1. The student will be able to understand the three stage preparation of p-bromo aniline from aniline and p-nitro aniline from aniline
2. The student will acquire the knowledge of the three stage preparation of o–chloro benzoic acid from pthalic anhydride
3. The student will be able to understand the three stage preparation of m-nitro aniline from benzene
4. The student will acquire the knowledge of the three stage preparation of tribromobenzene from nitrobenzene

VII. Physical Chemistry Lab (7P3)

After completion of the course

1. The student will be able to understand the titration of mixture of acids by a strong base
2. The student will be having knowledge of determination of PKa of weak acid redox titration of Fe (II) and $K_2Cr_2O_7$ and Fe (II) and Ce (IV)
3. The student can understand the precipitation reactions of KCI and $AgNO_3$, KCI + KBr and $AgNO_3$, KCI + KBr+ KI and $AgNO_3$
4. The student will understood the determination of order, solvent effect, salt effect and temperature effect

VIII. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

SEMESTER-VIII

I. General Chemistry (8T1)

After completion of the course

1. The student will be able to understand the concepts in group theory
2. The students are in a position to understand the NMR spectroscopy
3. The student can understand the ESR and NQR spectroscopic techniques
4. The student would acquire the knowledge of the diffraction and molecular structure

II. Inorganic Chemistry (8T2)

After completion of the course

1. The student will be able to understand the nature and properties of organometallic compounds
2. The student will be able to understand the bio inorganic chemistry
3. The student will acquire the knowledge of the definition of nanomaterials
4. The student will acquire the knowledge of the properties of nanomaterials

III. Organic Chemistry (8T3)

After completion of the course

1. The student will be able to understand the organic photo chemistry
2. The student will be able to understand the pericyclic chemistry
3. The student will be able to understand the oxidations and reductions in organic chemistry
4. The student understand the significance of C-C single and double bond reactions

IV. Physical Chemistry (8T4)

After completion of the course

1. The student will be able to understand the concept of homogeneous catalysis
2. The student will be able to understand the quantum chemistry
3. The student will acquire the knowledge of the quantum chemistry
4. The student will be able to understand the applications of electrochemistry

V. Inorganic Chemistry Lab (8P1)

After completion of the course

1. The student will be able to understand estimation of Ag^{+}, CU_{2+} and Ni_{2+}
2. The student will acquire the knowledge of estimation of CU_{2+}, Ni_{2+} and Zn_{2+}
3. The student will acquire the knowledge of the ion exchange methods
4. The student will acquire the knowledge determination of the capacity of an anion exchange resin

VI. Organic Chemistry Lab (8P2)

After completion of the course the students

1. The student will be able to understand the mixture analysis of strong acid + neutral compound
2. The student will acquire the knowledge of the mixture analysis of base + neutral compound
3. The student will be having knowledge of the mixture analysis of weak acid + neutral compound
4. The student will acquire the knowledge of the mixture analysis of neutral + neutral compound

VII. Physical Chemistry Lab (8P3)

After completion of the course the students

1. The student will be able to understand the distribution of benzoic acid between benzene and water
2. The student will be having knowledge of colorimetry
3. The student will understand the conductometry
4. The student will be able to understand the polarimetry

VIII. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

SEMESTER-IX

After completion of this course

I. Inorganic Chemistry (9T1)

After completion of this course

1. The student will be able to understand the concept of metallo proteins and enzymes functions
2. The student will be able to understand the concepts importance of metals in nucleic acids.
3. The student will acquire the knowledge of supra molecular chemistry
4. The student will acquire the knowledge of types of electrodes and coulorometry

II. Inorganic Chemistry (9T2)

After completion of this course

1. The student will be able to understand the organo metallic compounds of transition metals
2. The student will acquire the knowledge of organo metallic compounds of cyclic ligands
3. The student will understand the reaction mechanism of metal complex
4. The student will get the knowledge of functions of homogeneous catalysis

III. Organic Chemistry (9T3)

After completion of this course

1. The student will be able to understand about definition, scope of synthetic methodology
2. The student will acquire the knowledge of asymmetric synthesis
3. The student will understand the concept of protection functional groups
4. The student will get the knowledge of green chemistry and applications

IV. Physical Chemistry (9T4)

After completion of this course

1. The student will be able to understand the concepts of quantum chemistry and HOMO theory
2. The student will acquire the fundamental knowledge of conductance of strong electrolytes
3. The student will understand about kinetics and mechanisms of enzymes
4. The student will be able to understand spectroscopy ORD and CD

V. Inorganic Chemistry Lab (9P1)

1. The student will understand the spectro photometry
2. The student will be able to acquire the knowledge of determination of dissociation constants
3. The student will be able to understand the determination of composition of complex by Jobs and mole ratio method
4. The student will be able to understand about estimation of metal ions

VI. Organic Chemistry Lab (9P2)

1. The student will be able to understand the estimations
2. The student will acquire the knowledge of principles of chromatography
3. The student will be able to understand the chromatography experiments
4. The student will able to understand the knowledge of spectroscopic identification of organic compounds

VII. Physical Chemistry Lab (9P3)

1. The student will be able to understand the kinetics
2. The student will be able to understand the potentiometry
3. The student will acquire the knowledge of conductometry
4. The student will acquire the knowledge of colorimetry

VIII. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

SEMESTER-X

I. Polymer Chemistry (10T1)

After completion of this course

1. The student will be able to understand the basic concept of polymer chemistry
2. The student will be able to understand the chemistry of polymerization
3. The student will acquire the knowledge of polymer characterisation
4. The student will acquire the knowledge of analysis, testing and processing of polymers

II. Medicinal Chemistry (10T2)

After completion of this course

1. The student will be able to understand the concepts in medicinal chemistry
2. The student will acquire the knowledge of enzymes targeted drugs
3. The student will be able to understand the drug discovery and development
4. The student will get the knowledge of drug design and synthesis

III. Seminar

After completion of this course

1. The student will be able to present general chemistry topics
2. The student will be able to present inorganic chemistry topics
3. The student will be able to present organic chemistry topics
4. The student will be able to present physical chemistry topics

IV. Project

After completion of this course

1. The student will be able to carry out research work in the area of organic chemistry
2. The student will be able to carry out research work in the area of inorganic chemistry
3. The student will be able to carry out research work in the area of physical chemistry
4. The student will be able to carry out research work in the area of analytical chemistry