

BHAVAN'S COLLEGE, DAKOR.**B.Sc. - Outcome**

Class	Subject Code	Subject Name	Subject Outcome
B.Sc. Sem -1	US01CCHE21	General Chemistry-I	From the study of this paper, student will learn about basic concept of Alkanes, Alkenes, Alkynes and Periodic Properties. They also learn about basic concept of ionic equilibria in aqueous solution and analytical chemistry. This study will helpful them in further studies and in industries.
	US01CCHE22	Practical-In Chemistry-I	From the study of this paper, student will learn about performing chemical experiments under time constraint and Strong & Weak Acid-Base Titrations, Identification of Organic Compounds. This study will helpful them in further studies and in industries.
	US01CPHY21	Mechanics-I, Network Analysis, and Optics	Upon completion of this course, students will be able to understand the concept of elasticity. students will be able to understand the difference between electromagnetic and mechanical waves, characteristics of mechanical waves, what is the audible range a and how it differs from supersonic and infrasonic waves, characteristics and applications of ultrasonic waves ,the concept of acceleration due to gravity, students will be able to understand terminology used for networking, how to analyse the network and able to carry out circuit analysis applying appropriate theorem, students will be able to understand the phenomenon of interference with clarity, differentiate different types of fringes, resolving power of grating, telescope, microscope, spectrometer
	US01CPHY22	Physics Practical	By performing the experimens, the students will be able to understand the basic concepts of Mechanics, develop mathematical skills to calculate their praramters, plot graph for various physical quantities and conclude the results.

	US01CBIO21	Cell Biology and Biodiversity	Student are Studying from this paper they will learn about basic Knowledge of the structure of animal and human body; Biochemical component play an important role in physiological function of the body. Importance of a Virus, Bacteria, Plants and Animal, this will help them in further studies.
	US01CBIO22	Biology Practical	Student are Studying from this Practical paper they will learn about basic Knowledge of the Electron microscope, virus –bacteriophage TMV virus, Study of Bacteria by charts Structure of plant cell, Animal cell, mitosis, meiosis by demo and chart, morphology and temporary mounting of Volvox, Rhizopus, Riccia and cycas, studying genetic example, Biochemistry of carbohydrate, Protein and Lipid, Classification of Invertebrate, pathogenicity of worm, this will help them in further studies.
	US01SENV21	Environmental Studies	Student are studying from this Paper they will learn about Importance of Biogeochemical cycle in Atmosphere, Abiotic, Biotic Component of ecosystem, Conservation of Natural Resources and Biotic Interaction is necessary for environment, This Knowledge will help the student to understand environment and how it should be maintained.
	US01AENG21	FUNCTIONAL ENGLISH	After the completion of the course the learners will be able to develop proficiency in four skills; that is, Reading, Writing, Listening and Speaking.
B.Sc Sem -2	US02CCHE21	General Chemistry-II	From the study of this paper, student will learn about basic concept of Alkyl and Aryl halides and Chemical Bonding. they also learn about basic concept of d-block elements, Fundamental concept of coordination chemistry and chemical kinetics. This study will helpful them in further studies and in industries.
	US02CCHE22	Practical In Chemistry-II	From the study of this paper, student will learn about performing chemical experiments of Redox Titrations and Qualitative Analysis of Inorganic Compounds. This study will helpful them in further studies and in industries.

US02CPHY21	Mechanics-II, Basic Electronics, and Laser	Upon completion of this course, students will be able to use mathematical skills for calculations related to scalar and vector quantities, identify the use of gradient, divergence and curl of a field, types of vectors used, application of vectors in various areas of physics, Students will be able to understand motion of a body with respect to various frames of reference, how transformation equations are applied for inertial and non-inertial frames of reference, students will be able to understand the concept of ether, length contraction and time dilation, Upon completion of this course, students will be able to understand the basic electronics of diodes and rectifiers
US02CPHY22	Physics Practical	Upon completion of this course, students will be able to perform experiments of optics and will be able to correlate the theoretical concepts with performing the practical, will be able to understand the concepts of electronic circuits and use of various meters to carry out observations and measurements. Students will also be able to perform numerical calculations of radioactivity using scientific calculator
US02CBIO21	Genetic, Tissue Culture and General Biology	Student are Studying from this paper they will learn about How genetic traits and disease are inherited and Knowledge about species of Animal and Plant are produce in a tissue culture lab and Advantage and Disadvantage of Virus, Bacteria as well as the importance of plant and Economic importance, Behavioural study of Animal.this will help them in further studies.
US02CBIO22	Biology Practical	Student are Studying from this Practical paper they will learn about basic Knowledge of the Mendel's law, numerical based On Mendelism, chromosomal diseases, Blood group and study of leaf morphology, study of plant family, classification of vertebrate Animals, type of fish scales, fish and amphibian parental care,

			poisonous and non-poisonous snake, type of Birds feather.this will help them in further studies.
	US02SENV21	Environmental Studies	Student are studying from this Paper they will learn aboutPollution harm the environment and effect living things therefore the rules of environment should be followed. The importance of relationship between human society and environment. Knowledge and importance of wild, wild life and wild life conservation. This Knowledge will help the student to understand environment and how it should be maintained.
	US02AENG21	FUNCTIONAL ENGLISH	After the completion of the course the learners will be able to develop proficiency in four skills; that is, Reading, Writing, Listening and Speaking.
B.Sc Sem -3			
	US03CCHE21	Inorganic Chemistry	From the study of this paper, student will learn about basic concept of Acid-Base and non-aqueous solvent, Valence Bond Theory and Isomerism in coordination compounds, Lanthanides and Actinides, Metal Carbonyl and Nitrosyls. This study will helpful them in further studies and in industries.
	US03CCHE22	Physical Chemistry	From the study of this paper, student will learn about basic principles of thermodynamics and States of matter, they will also understood Colligative properties in diluted solution and electrolytes in solution. This study will helpful them in further studies and in industries.
	US03CCHE23	Chemistry Practical	From the study of this paper, student will learn about performing chemical experiments under time constraint and appreciate the Inorganic Qualitative Analysis of four redical mixture and Volumetric analysis. They also learn about the paper chromatography and making standard solutions. This study will helpful them in further studies and in industries.
	US03CPHY21	Optics	Upon completion of this course, students will be able to understand the basic concepts of geometrical optics, for a lens system and various

		parameters used for measurements associated with it. It also introduces students to type of lens aberrations associated with lens system, will be able to grasp wave nature of light. They will also be able to understand the concept of conditions necessary to obtain interference of light. The students will also be able to understand the phenomenon of diffraction and types of diffraction. Students will be able to understand how light will diffract through single slit and circular apertures, concept of polarization, principle of optical fiber, structure of optical fiber and their necessity. Students will be able to explain role of total internal reflection in optical fiber communication. Students will also be able to understand types, characteristics, merits and demerits of optical fibers.
	US03CPHY22	Basic Solid State Electronics Upon completion of this course, students will be able to understand the principle of operation of transistors (pnp and npn), small signal and large signal amplifiers, basic concepts of Feedback in Amplifiers, Study the characteristics of feedback amplifier, classification of Oscillators and their applications, difference between BJT and FET, understand voltage controlled devices and their various applications
	US03CPHY23	Physics Practical Upon completion of this course, students will be able to perform experiments of mechanics, optics and sound, will be able to correlate the theoretical concepts with performing the practical, will be able to understand the concepts of electronic circuits and use of various meters to carry out observations and measurements. Students will also be able to perform numerical calculations of radioactivity using scientific calculator
	US03AENG21	FUNCTIONAL ENGLISH After the completion of the course the learners will be able to develop proficiency in four skills; that is, Reading, writing, Listening and speaking critically.

			In reading section the learners will be able to skim and scan through a passage, in Writing section will be able to organize ideas into longer composition; in Listening will be able to understand narration ,dialogue and in Speaking the learners will be able to use various notions and functions of everyday use.
B.Sc Sem -4	US04CCHE21	Organic Chemistry	From the study of this paper, student will learn about basic concept of Stereochemistry and Alcohol-Pheol, Aldehyde-ketone, Amines. they also learn about basic concept of Carbohydrates and Chemical reactivity and molecular structure for acid-base. This study will helpful them in further studies and in industries.
	US04CCHE22	Analytical Chemistry	From the study of this paper, student will learn about basic principles of Titrimetric method in analysis and neutralisation ,redox, complexometric titrations. they also learn about water pollutant analysis. This study will helpful them in further studies and in industries.
	US04CCHE23	Chemistry Practical	From the study of this paper, student will learn about performing chemical experiments under time constraint and Separation and identification of two component Organic mixture and appreciate the Inorganic Quantitative Analysis of given solutions. This study will helpful them in further studies and in industries.
	US04CPHY21	Electromagnetic Theory and Spectroscopy	Upon completion of this course, students will Gain an understanding of the interactions possible between charged objects and develop the electric field concept as a means of describing the strength and direction of these interactions using mathematical models to analyse the interactions. Select relevant properties from electric charge and fields to predict the outcome of a given electrostatic interaction, fundamentals of Magnetostatics, states the sources of magnetic field ,calculates the magnetic field in magnetic and non-magnetic environments understand the

		characteristics of materials and their interactions with electric and magnetic fields, fundamentals of atomic spectroscopy, origin of x-rays, methods used to produce x-rays, characteristic and continuous x-rays, electromagnetic spectrum, detection of x-rays by Bragg spectrometer, explanation of emission and absorption spectra
US04CPHY22	Classical, Quantum and Solid State Physics	Upon completion of this course, students will gain an understanding about the laws of gravitation and its relation with electrostatic forces, students should be able to explain the concept of equipotential surfaces, should be able to understand dipole and quadrupole fields and their moments, will be able to explain the fundamentals of Black Body radiation and Ultraviolet Catastrophe, should be able to describe the relevance of radiation laws with respect to frequency and wavelength of electromagnetic radiation, students should be able to derive one dimensional and three dimensional time independent and time dependent Schrodinger equation, understand the uncertainty relations. the crystal lattice and how the main lattice types are described, formulate the theory of X-ray diffraction in the reciprocal lattice (k-space) formalism and apply this knowledge to generalize the formulation for matter waves, be able to perform structure determination of simple structures, explain bonding in solids
Physics Practical	US04CPHY23	Upon completion of this course, students will be able to perform experiments of mechanics, optics and sound, will be able to correlate the theoretical concepts with performing the practical, will be able to understand the concepts of electronic circuits and use of various meters to carry out observations and measurements. Students will also be able to perform numerical calculations of radioactivity using scientific calculator

	US04AENG21	FUNCTIONAL ENGLISH	After the completion of the course the learners will be able to develop proficiency in four skills; that is, Reading, writing, Listening and speaking critically. In reading section the learners will be able to skim and scan through a passage, in Writing section will be able to organize ideas into longer composition; in Listening will be able to understand narration ,dialogue and in Speaking the learners will be able to use various notions and functions of everyday use.
B.Sc. Sem -5	US05CCHE21	Organic Chemistry	From the study of this paper, student will learn about basic concept of heterocyclic chemistry, reaction mechanism, Dienes And Macromolecules and Terpenoids. This study will helpful them in further studies and in industries.
	US05CCHE22	Inorganic Chemistry	From the study of this paper, student will learn about basic concept of symmetry, crystal field theory, geometry of the molecule, stability of metal complexes and inorganic polymers. This study will helpful them in further studies and in industries.
	US05CCHE23	Physical Chemistry	From the study of this paper, student will learn about basic concept of entropy and chemical kinetics. Also will be able to understand basics of photo chemistry and surface chemistry. This study will helpful them in further studies and in industries.
	US05CCHE24	Analytical Chemistry	From the study of this paper, student will learn about basic concept of instrumental techniques, chromatography and solvent extraction methods. This study will helpful them in further studies and in industries.
	US05CCHE25	Paper-I : Physical Chemistry Practical	After performing chemical kinetics exercise, students will learn hands on training of instruments like pH metry, Potentiometry , Conductometry. Separation and identification of six radicals inorganic mixture. Estimation and

B.Sc. Sem -6		Paper-II : Organic Chemistry Practical Paper-III : Inorganic Chemistry Practical Paper-IV : Analytical Chemistry Practical	preparation of organic compounds. This study will helpful them in further study and Industry.
	US05DCHE26	Organic Spectroscopy	From the study of this paper student will learn about basic principal and application of spectroscopy specially Ultraviolet Spectroscopy, Infrared Spectroscopy. This study will helpful them in further studies and Industry.
	US06CCHE21	Organic Chemistry	From the study of this paper, student will learn about basic concept of Amino Acids And Proteins, Purine and Pyrimidines, alkaloids, Synthetic Dyes and Organic Photochemistry. This study will helpful them in further studies and in industries.
	US06CCHE22	Inorganic Chemistry	From the study of this paper, student will learn about basic concept of wave mechanics, Organo metallic compounds, Cyclopentadienyl complexes Term symbol, Electronic spectra of metal complexes and principles of metallurgy. This study will helpful them in further studies and in industries.
	US06CCHE23	Physical Chemistry	From the study of this paper, student will learn about basic principles of thermodynamics and electrochemistry. Also will be able to understand basics of catalysis and phase equilibrium. This study will helpful them in further studies and in industries.
	US06CCHE24	Applied Chemistry	From the study of this paper, student will learn about basic concept of principles of NMR Spectroscopy, Drugs, Bioinorganic chemistry and Heavy chemicals . This study will helpful them in further studies and in industries.
	US05CCHE25	Paper-I : Physical Chemistry Practical	From the study of this paper student will learn about performing chemical experiments under time constraint and appreciate the physical principles useful in chemical science. Separation

	Paper-II : Organic Chemistry Practical Paper-III : Inorganic Chemistry Practical Paper-IV : Analytical Chemistry Practical	and identification of two component Organic mixture. Volumetric analysis. This study will helpful them in further study and Industry.