Program outcomes of B.Sc.

B.Sc. offers theoretical and practical knowledge in different areas i.e., physic, chemistry, Mathematics, and biology. Course, prepare students for jobs in inter disciplinary areas and also develop the scientific temper in society. Science graduates can go to serve in industries or may opt for establishing their own industrial unit. Students pursuing in science can represent our country at global level in research.

Program specific outcome of B.Sc.

a) B.Sc. Medical

1. Medical students will be able to explain major concepts in biological sciences and also learn to use biological instruments correctly.

2. Students can also opt for higher studies in biotechnology and fisheries or some other fields.

3. Students can go for **IFS -** Indian Forest services and other competitive exams.

b) B.Sc. Non Medical

1. Students will determine the level of technology for use in experimental design, analysis of experimental data and numerical and mathematical methods.

2. Students will acquire knowledge of thermodynamic, spectroseopy, hinities and electrochemistry, & implement this knowledge at industrial level.

3. Students can also join as scientist in research institutes and can best contribute for country at difference level also.

B.Sc. 1st Sem.

English

"Course outcome"

- The Prescribed course equips students with nuances of language that includes proficiency in Grammar, its effective usage in Speaking and Writing. It also develops their personality.

- Analysis literary Texts.
- Create Imaginative and original literature in at least one genre.
- The students will learn to read analysis and interpret words of literature to acquaint them with the form, structure and the aesthetic of style and Techniques of literary works.
- Help students to communicate and interact verbally in our day-to- day life.
- To understand the meaning of prose by reading text.
- To acquire knowledge.
- To diagnose the weakness of speaking and writing English.

B.Sc. 2nd Sem.

English

"Course outcome"

- The study of elective subject of English equips the students with knowledge of English literature as a whole along with significant writers, further preparing the students to compose work of literature.
- The course is prelude to various prestigious post graduate programs.
- It further helps them to prepare for various competitive exams and to keep up with increasing demand of English in Indian society. The practical work improves their communication and writing skills and at the same time equipping them to use modern forms of communication.
- Understand significant development in the history of English and language aspects.
- Apply theoretical approach to critical reading of literary texts.
- To develop the habit of classify the elements of English language.

Course Outcome (Math's)

Real Analysis – Sem.-5 (B.A /B.Sc.)

Real Analysis describes the fundamental properties of the real numbers. It demonstrates an understanding of Riemann Integral, fundamental theorems of integral calculus, mean value theorem of integral calculus, improper integrals and their convergence, comparison tests, Integrability of an integral of a function of parameter. It gives the basic knowledge of metric space, open closed metric spaces and their compacters. This course is a proof based course.

Groups and Rings (sem-5)

B.A / B.Sc.

This course gives an introduction to group and ring theory. It covers the fundamental definitions and results in group theory, including the Lagrange's Theorem, group homomorphism, the relation between normal subgroups and quotient groups and the isomorphism and auto Orphism theorems. It gives the detailed knowledge of the structure of finitely generated Aeolian groups, cyclic groups, and permutation groups, symmetric and alternating groups. It covers the fundamental concepts and results in ring theory, including the concepts of an ideal, quotient ring, integral domain and fields. It also covers the Euclidean rings, Polynomial rings, Eisenstein's criterion of irreducibility, Unique Factorization Domain.

Course Outcome

Real and complete Analysis (Semester 6)

This course consists of real analysis and complete analysis. Real analysis gives the vast knowledge of Jacobeans, Beta and Gamma function, Double and Triple Integral, change of order of integration in double integrals. It gives the deep knowledge of furies series, furies series of piecewise monotonic function, properties of furies coefficients, Dirichlet's conditions, Parsenal's identity for furies series, Fourier series for even and odd function, Half range series and change of intervals. Complete analysis makes us know about extended complete plane, Stereographic projection of complex numbers, continuity and differentiation of complex numbers, analytic functions, Cauchy-Riemann equations, harmonic functions, mappings by elementary functions, translation, rotation, magnification and inversion, conformal mappings, mobius transformations, fixed points, cross ratio, inverse points and critical mappings.

Dynamics Sem. 6

This paper helps us in knowing about velocity and acceleration along radial, transverse, tangential and normal directions, relative velocity and acceleration, Simple Harmonic Motion and Elastic Strings. It tells us about Mass, Momentum and Force, Newton's laws of motion, Work, Power and Energy, Definitions of Conservative forces and Impulsive forces. It gives immense knowledge of Motion on smooth and rough plane curves, Projectile motion of a particle in a plane, Vector angular velocity, Central orbits, Keller's laws of motion, and Motion of a particle in three dimensions, Acceleration in term of different coordinate systems.

Algebra (B.A /B.Sc. Sem. 1)

This paper consists of mainly two topics. One is matrix which gives knowledge of Symmetric, Skew Symmetric, Hamilton and Skew-Hamilton matrices, Elementary operations on matrices, Rank of a matrices, Inverse of a matrix, Liner dependence and Independence of Rows and Columns of matrix, Eigen values, Eigen vector and the characteristic equation of a matrices, Minimal polynomial of a matrices, Caley Hamilton theorems and its uses in finding the inverse of a matrices. Applications of matrices to a system of linear (both homogenous and non-

homogeneous) equations, Unitary and Orthogonal matrices, Bilinear and quadratic found forms. Second topic is relations between the roots and coefficients of general polynomial equations in one variable, Solutions of Polynomial equations having condition on roots, common roots and multiple roots and also Transformation of equations, Nature of roots of an equation, Descartes' Rule of signs, Solutions of cubic equation (Cordon's Method), Biquadrate equations and their solutions.

Vector Calculus (B.A/B.Sc. Sem. 2)

This paper gives vast knowledge of scalar and vector product of three vectors, reciprocal of vectors differentiation, scalar valued point function, vector valued point function, derivative along a curve, directional derivatives. This paper tells about gradient of a scalar function and divergence and curl of vector point function and Laplacian's operator. Students will lead about orthogonal curvilinear coordinates, Gradient divergence and Laplacian operators in terms of orthogonal curvilinear coordinates, cylindrical coordinates, and spherical coordinates. Students will have deep knowledge of vector integration, line integral, surface integral, and volume integral. Problem of Guan's Green's Stocks theorems are done in details.

Department of Chemistry

Course Outcome

B.Sc. Part-I

Inorganic Chemistry

1. To understand the shapes of different orbitals and different principles for filling electrons.
2. To understand how to calculate bond order and lattice energy through Born Haber Cycle.
3. To study general trends in the chemistry behind p-block elements.
4. The students will understand the biological significance of sodium, potassium, magnesium and calcium.
5. The students will be able to describe the salient features of alkali and alkaline earth metals.

Organic Chemistry

1. To acquire the knowledge of stereoisomerism.
2. To understand the basic terms of chemical reactions *i.e.* substrate, reagent, electrophiles and nucleophiles and chemical intermidiates.

3. To understand basics of alkanes, alkenes, dienes and aromaticity.

4. To understand the core concepts of organic chemistry *i.e*. resonance, hyperconjugation, inductive and elecromeric effect and their applications.

Physical Chemistry

1. To explain the quantitative relationship between T, V, n & P as described by kinetic molecular theory.

2. To compare and contrast the chemical behaviour and physical properties of common substances.

3. To write a general form of the rate law for any chemical reaction and define the order of a chemical reaction.

4. To determine integrated rate expression for zero order, first order, second and third order reaction and their respective half life period expressions.

5. To understand the various factors affecting the rate of a chemical reaction such as concentration, temperature, solvent, catalyst etc.

B.Sc. Part-II

Inorganic Chemistry

1. Study of transition metals to understand the trends in properties and reactivity of the d block elements.

2. To have knowledge of the typical physical and chemical properties of the transition metals.

3. The student should understand that there are different methods of expressing concentration of a solution such as mass percent, ppm, normality, molarity, and molality. 4. By quantitative analysis courses, the students will be able to understand, communicate and interpret quantitative information and mathematical ideas.

5. The students will be able to understand the various uses of lanthanides elements in flash light powders and in dying cotton.

6. The students will be able to know about importance of actinides elements.

Organic Chemistry

1. To understand methods for preparation of alcohols and their different classes. 2. To understand the structure and reactivity of carboxylic acid and their derivatives. 3. To

understand the reactivity of different carbonyl compounds towards nucleophillic reaction.

4. To understand to differentiate between primary, secondary and tertiary amines.
5. To be able to write mechanism of different condensation reaction.

Physical Chemistry

1. To acquire knowledge of thermodynamic terms: system, surrounding etc., types of systems, intensive and extensive properties, state and path functions and their differentials.

2. To understand heat capacity, heat capacities at constant volume and pressure and their relationship.

3. To understand the Nernst distribution law – its thermodynamic derivation, modification of distribution law when solute undergoes dissociation, association and chemical combination. Applications of distribution law.

4. To determine degree of hydrolysis and hydrolysis constant of aniline hydrochloride.
5. To understand the concepts of electrochemistry

6. To understand the working and reaction of electrochemical cells.

B.Sc. Part-III

Inorganic Chemistry

1. To obtain the information of concepts of metal ligand bonding in transition complex compounds.

2. To understand the thermodynamics and kinetic aspects of metal complexes. 3. To gain knowledge of chemistry of organometallic compounds, homogenous hydrogenation and carbonyls.

4. Obtain adequate information about bioinorganic chemistry of hemoglobin, myoglobin etc.

5. To understand the role of metal ions in biological system.

6. To understand the concept of acid and bases.

Organic Chemistry

1. Detail study of NMR spectroscopy to assign the structures of organic compounds. 2. To develop an understanding of the significance of the number, positions, intensities and splitting of signals in nuclear magnetic resonance spectra.

3. To know particular carbohydrate structures of cyclic monosaccharides, disaccharides and

their functions.

4. To demonstrate advanced knowledge and understanding in aspect of protein structure.
5. To develop fundamental theoretical understanding of heterocyclic chemistry.

Physical Chemistry

1. To understand the concept of black body radiations and wave functions. 2. To know about basic features of spectroscopy and harmonic oscillator and transitions through electronic spectroscopy.

3. To understand the term symbols of diatomic molecules.

4. To understand the different types of vapour pressure curves, ideal or non ideal solutions and their behavior.

COURSE OUTCOMES

B.Sc. (ZOOLOGY)

1.1- LIFE AND DIVERSITY FROM PROTOZOA TO HELMINTHES

CO1. Understanding the general taxonomic and classification rules for the study of animals.
CO2- To gain knowledge of classification of Non-chordates (Protozoa to Helminths); detailed cellular, anatomical, process of evolution and physiological studies through the study of type organism of each phylum and the economic importance of invertebrate fauna with examples

1.2- CELL BIOLOGY

CO1: Knowledge of the basic concepts, structure and function of various cell organelles of animal cell such as Plasma Membrane, Endoplasmic reticulum, Golgi complex, biogenesis and cellular functions of Ribosomes, Lysosomes, Mitochondria, Cytoskeleton elements viz. Microtubules, microfilaments, centriole, basal body and locomotor organelle i.e. Cilia and Flagella.
CO2: Analysis of ultrastructure of nucleus and nuclear membranes, polytene, lampbrush chromosomes and study of mitosis, meiosis and elementary awareness regarding cancer and immune mechanisms.

2.1- LIFE AND DIVERSITY OF ANNELIDA TO HEMICHORDATA

CO1: Knowledge of classification of Non-chordates (Annelida to Hemichordata); detailed cellular, anatomical and physiological studies through the study of type organism of each phylum.

CO2: To build conceptual understanding of the affinities and evolutionary significance of various larval stages in non-chordate phyla and the importance of hemichordates as being the connecting links between non-chordates and chordates.
CO3: Understanding typical developmental phenomenon like torsion and detorsion in gastropods, foot modifications in mollusks; structural marvels like aristotle's lantern in Echinoderms.

2.2 GENETICS

CO1: Develop idea about the structure and type of nucleic acids; protein synthesis, mutations and applied genetics by understanding allelic and non-allelic interactions, linkage, crossing over and problem-solving approach for genetic maps
CO2: Comprehensive mechanisms for Sex determination, cytoplasmic inheritance and role environmental factors and hormones in sex determination
CO3: Acquiring knowledge of multiple concepts such as Multiple allelism, Human genetics, Human karyotype, Chromosomal abnormalities, Inborn errors of metabolism

3.1- LIFE AND DIVERSITY OF CHORDATES – I

CO1: Understanding the basic principles of classification, ecological significance of organisms and conservation measures.
CO2: Introduction to the process of evolution by the study of origin of various chordate phyla.
CO3: Studying the general characters of protochordates till Pisces using type organisms.

3.2 MAMMALIAN PHYSIOLOGY – I

CO1: Understanding of carbohydrates, lipids, proteins and enzymes.
CO2: Awareness about appropriate intake of nutritional components- Carbohydrates, fats, lipids, Vitamins and Minerals and Digestion of dietary constituents, viz. lipids, proteins, carbohydrates & nucleic acids and Absorption of nutrients & assimilation; control of enzyme secretion.
CO3: Biochemical and structural analysis of Bones and muscles.

4.1- LIFE AND DIVERSITY OF CHORDATES – II

CO1: Knowledge of classification of vertebrates (Amphibia to Mammalia) and functional morphology of the type organism in each class.
CO2: Understanding of the origin, evolutionary history and adaptive radiation by means of evolutionary trees and fossil studies.
CO3: Awareness about the complex phenomenon typical of higher animals such as parental care, migrations, special adaptive features in reptiles, aves and mammals for their specific modes of life.

4.2 MAMMALIAN PHYSIOLOGY – 2

CO1: Familiarity with structure and functioning of circulatory system.
C02: Awareness of Bohr's effect, Haburger's phenomenon (Chloride shift); urea formation in liver, study of urine formation, counter-current mechanism of urine concentration,

osmoregulation, micturition, nerve conduction medullated & non-medullated nerve fibre.
CO3: Correlation and coordination of hormones and their mechanism of actions and study Reproduction physiology of mammals.

5.1- FISH AND FISHRIES

CO1:Understanding of world fisheries and fresh water fishes of India
CO2: Describing Fishing crafts and gears and Fin fishes, Crustaceans, Molluscs and their culture.
CO3: Understanding natural seed resources and Sources of food (Natural, Artificial) and feed composition (Calorie and Chemical ingredients).

5.2- ECOLOGY AND EVOLUTION

CO1- Basic understanding ofdefinition, significance, Concepts of habitat and ecological niche, Abiotic factors (light-intensity, quality and duration),temperature, humidity, topography; edaphic factors; biotic factors.
CO2- Imparting Knowledge of ecosystem,Ecological energetics and energy flow-food chain, food web, trophic structure; ecological pyramids concept of Productivity, Biogeochemical cycles andPopulation
CO3: Concept of origin of life, theories of organic evolution, Concept of microevolution, macro- and mega-evolution, phylogeny of horse and evolution of man.

6.1-ENTOMOLOGY

CO1: Study of important insect pests of crops and vegetables, Sugarcane and cottonwith their systematic position, habits and nature of damage caused.
CO2: Study of important insect pests of crops and vegetables, wheat, paddy, vegetables and stored grains with their systematic position, habits and nature of damage caused
CO3: Insect control, biological control and Chemical control of pests, integrated pest management, Important bird and rodent pests of agriculture & their management.

6.2- DEVELOPMENTAL BIOLOGY

CO1: Understanding of Historical perspectives with structure of mammalian ovum & sperm, Spermatogenesis and Oogenesis, Fertilization, parthenogenesis, primary organizers. Fate-map construction in frog and chick.
CO2**:** Extra embryonic membranes, Concepts of competence, determination and differentiation, regeneration.

COURSE OUTCOME
B.SC (BOTANY)

Semester-I

Course BOT 1.1-Diversity of Microbes

CO-1: To familiarize the students with the structure, nutrition, life history and economic importance of bacteria, cyanobacteria and algae .
CO-2: To understand the important features and life-history of *Volvox, Oedogonium*, *Vaucheria*,*Ectocarpusand Polysiphonia*.

CO-3: General account of viruses, structure of TMV and Bacteriophages; characteristics, classification and economic importance of Fungi and Lichens.
CO-4: To study the important features and life history of *Phytophthora, Mucor, Penicillium, Puccinia,Agaricus*and *Colletotrichum.*

Course BOT 1.2-Cell Biology

CO-1: Imparting knowledge of structure and function of cell wall, plasma membrane, Golgi apparatus, Endoplasmic Reticulum, Lysosomes, Peroxisomes and vacuoles.
CO-2: Describing structure and function of the Chloroplast, Mitochondria, Nucleus and Nucleolus and Chromosomes.
CO-3: Basic understanding of cell cycle, mitosis and meiosis.
CO-4: To understand the concept of chromosomal aberration, sex chromosome and sex determination in plants.

Semester-II

Course BOT 2.1- Bryophytes and Pteridophytes

CO-1: Imparting knowledge about the bryophytes, their classification and economic importance.
CO-2: Description of gametophyte, , sporophyte and life cycle of *Marchantia, Anthoceros, and Funaria.*
CO-3:General account of pteridophytes (Fern plants) including features of pteridophytes, their significance, and the evolution of vascular system in them.
CO-4: Concept of sporophytic plant body, external & internal structure and gametophyte of *Rhynia, Selaginella, Equisetum and Pteris.*

Course BOT 2.2-Genetics

CO-1: To impart the knowledge of DNA as genetic material, structure and Nucleosome Model; mechanism of DNA replication, Genetic code and concept of Mendel's Laws of inheritance.
CO-2: Concept of Mendelism: Laws of segregation and independent assortment; Linkage analysis, allelic and non-allelic interaction.
CO-3: Elaborating the concept of mutation & types of mutation and molecular DNA repair & damage systems and extra nuclear inheritance.
CO-4: To understand the modern concept of gene, RNA, Ribosomes, Transcription and Translation, regulation of gene expression in prokaryotes and eukaryotes and structure of proteins.

Semester-III

Course BOT 3.1-Biology and Diversity of seed plants-I

CO-1: Imparting knowledge regarding origin and evolution of gymnosperms, geological time scale, evolution of seed habits and classification of gymnosperms.

CO-2: Basic understanding of the processes involved in fossils and fossilization, importance of fossil and reconstructions of some fossil gymnosperms.
CO-3: Describing the morphology and anatomy of root, stem, leaf and reproductive parts including life cycle and economic importance of *Cycas* and *Pinus* plant.
CO-4: To impart the knowledge regarding general characters, origin and evolution of angiospermand also to familiarize the student about morphology, anatomy and life cycle of *Ephedra.*

Course BOT 3.2-Plant Anatomy

CO-1: Understanding the structure, function and distribution of various types of tissue in flowering plants.
CO-2: Imparting knowledge regarding cambium, periderm, secondary growth and analogous secondary growth in angiosperms.
CO-3: Describing leaf morphology, phyllotaxy, epidermal appendages and anatomy of monocot and dicot leaf and leaf abscission.
CO-4: Understanding histological organization, secondary growth in roots and structural modification in roots.

Semester-IV

Course BOT 4.1-Biology and Diversity of Seed Plants-II

CO-1: General account of taxonomy and systematics, fundamental components of taxonomy, Role of chemotaxonomy, cytotaxonomy and taximetrics and Botanical nomenclature.
CO-2: Description of type concept, salient features of the classification of angiosperms, proposed by Bentham and Hooker and Engler &Prantl, Floral terms and types of inflorescence.
CO-3: To familiarize the students regarding diagnostics features and economic importance of families:Rannuculaceae, Brassicaceae, Malvaceae, Euphorbiaceae, Rutaceae, Fabaceae and Cucurbitaceae.
CO-4: Description of diversity of flowering plants from the families: Apiaceae, Asclopladaceae, Lamiaceae, Solanaceae, Asteraceae, Liliaceae and Poaceae.

Course BOT 4.1-Plant Embryology

CO-1: Description of flower as modified shoot, microsporangium, microsporogenesisand structure of pollen grains.
CO-2: Imparting knowledge regarding pollen germination, male gametophyte, pollen-pistil interaction, self –incompatibility, pollination types and agencies.
CO-3: Understanding the structure of megasporangium, female gametophyte, double fertilization, Endosperm types and its biological importance.
CO-4: Describing embryogenesis in monocot and dicot seed, fruit types dispersal mechanism in fruit and seeds.

Semester-V

Course BOT 5.1-Plant Physiology

CO-1:Imparting knowledge about the relationship between plant and water, physical properties, transpiration, physiology of stomata and mineral nutrition.

CO-2: To understand the concept of transportation of organic solutes and photosynthesis, CAM plants, photorespiration.

CO-3: To study the growth and development about seed dormancy, plant movements, photoperiodism, flowering, Senescence and fruit ripening.

CO-4: Basic understanding of the various plant hormones including auxin, gibberellins, cytokinins, abscissic acid, ethylene; photomorphogenesis and phytochrome.

Course BOT 5.2- Ecology

CO-1: Basic knowledge of the Ecology, levels of organization ,biotic& abiotic factors .

CO-2: Understanding the concept of plant adaptation, population ecology, ecotypes and ecads.

CO-3: To study the concept of community ecology, ecological succession, Ecosystem, ecological pyramids and energy flow.

CO-4: To describe the phyto-geographical regions of India, vegetation types, Environmental pollution, and biomagnification.

Semester-VI

Course BOT 6.1- Biochemistry and Plant Biotechnology

CO-1: Basic understanding of the Enzyme and their mechanism of action, aerobic and anaerobic respiration, Krebs cycle, electron transport mechanism, redox –potential, oxidative phosphorylation and pentose phosphate pathway.

CO-2:Imparting knowledge regarding the structure and function of lipids, fatty acid biosynthesis, beta oxidation, saturated and unsaturated fatty acids, storage and mobilization of fatty acids.

CO-3: Ellaborating the concept of mechanism of biological nitrogen fixation, nitrate reductase and ammonium assimilation.

CO-4: To gain the information about recombinant DNA technology, cloning vectors, cDNA library, transposable elements, plant tissue culture, biology of Agrobacterium and markers genes.

Course BOT 6.2-Economic Botany

CO-1: Describing Vavilov's centres of crop plants, their cultivation and economic uses including cereals, pulses and vegetables.

CO-2:To familiarize the students regarding cultivation and economic uses of Fibers-yielding plants (cotton, jute, flax) and oil-yielding plants (groundnut, mustard, sunflower and coconut).

CO-3: Brief account of cultivation and description of spices and medicinal plants; processing and uses of beverages (tea & coffee), rubber& sugar.

COURSE OUTCOME DEPARTMENT OF PHYSICS

B.SC (Physics)

Physics in B.Sc (UG) should aware the students by basic phenomenon, principles, techniques, concepts and general theories of physics. This Course should also support the ability to ask physical questions and to obtain solutions to physical questions by use of qualitative and quantitative reasoning and by experimental observation. Physics tools can explain a broad spectrum of modern trends in physics and to develop experimental, computational and mathematics skills of students. Aim of the course is to develop the abilities of Reading. Understanding and interpretation of physical information verbally, mathematically and graphically. It also gives need based education in physics of the highest quality at the undergraduate level. With the help of this course students can perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties. The course also provides an intellectually stimulating environment to develop skills and enthusiasm of students the plus two and post graduate levels of physics by providing a more complete and logical framework in almost all areas of basic physics

Department of physics

PROGRAMME OUTCOMES B.Sc. PHYSICS

Semester- 1st

Mechanics

Mechanics is teaching at UG level to make the understanding of students about activities and how to generalize the system of particles and system of coordinates. Students can understand the basic Newtonian, Lagrangian physics and the concept of centre of mass with various examples.

ELECTRICITY AND MAGNETISM

The syllabus is base on the revision of mathematical tool and understands the concept of electric field and magnetic field so that students can used these concepts for further study as physics tool.

Semester – 2nd

PROPERTIES OF MATTER, KINETIC THEORY ANDRELATIVITY

These topics carried the information about the properties of matter like elasticity, bending of beam cantilevers and experimental verification of Mexwell's law. It also covered theory of Relativity due to which get attraction toward the science.

ELECTRO MAGNETIC INDUCTION AND ELECTRONICDEVICE

With the help of the topics covered under these syllabus students can understand the basic concept of Semiconductor and performed simple and basic experiment. Students can understand the concept and working of transistor, amplifier, rectifiers, oscillator and coupling between two stages

Semester – 3rd

Computer programming Thermodynamics

The most important aspect of computer science is problem solving, an essential skill for life. Students study the design, development and analysis of software and hardware used to solve problem in a variety of business, scientific and social contexts. Because computers solve problems to serve people, there is a significant human side to computer science as well. And thermodynamics is a very important branch of both physics and chemistry. It deals with study of energy, the conversion of energy between different forms and the ability of energy to do work.

Semester 5th and 6th

Solid State Physics & Quantum Mechanics

An obvious, very important motivation for the study of Solid State Physics is the fact that the microscopic properties it deals with are responsible for the majority of modern technology. These properties determine the mechanical strength of materials, how they interact with light, how they conduct electricity, etc. Another important motivation for studying solid state physics is the fact that the basic, fundamental physics needed to understand the microscopic properties of solids is very interesting. Further, to understand these properties, the idea & methods of quantum mechanics must be used. In fact, the physics of solids is very deeply quantum mechanical. For this reason, solid state physics has sometimes been called the best "laboratory" for studying subtle quantum mechanical effects. This course may be a first chance for students to see quantum mechanical ideas & methods applied to cases where their technological consequences are so important. Two examples (of MANY) for which solid state physics discoveries have revealed very interesting fundamental physics are the observations & explanations of superconductivity & the fraction Quantum hall effect. Both of these have exotic quantum mechanical explanations.

Semester – 4th

Topics carried information about probability distribution of molecules in two boxes phase space, postulates of statistical physics. It also covered division of phase space into cells, ferni -dirae statistics spewfie heat of metals wile solution.

Another important motivation for studding the five interference by division of amplituidi deal with modern technology

Fraimhoffer diffraction provides information about one slit diffraction two slit diffraction resolving power of telescope

With the aspects, students can understand the polarization, double refraction huytgen's wave theory of dable refraction, and analysis of promised light and prolarimiter.