

B. Sc. ZBC Semester –I

S.No	Course Code	Title of the Course	Credit Hrs.		
			L	T	P
1	BIOL-301	BACTERIA, VIRUS, LICHEN, FUNGI & PL.PATHOLOGY	2	0	2
2	BIOL-302	INVERTIBRATE-I	2	0	2
3	BIOL-305	ENVIRONMENTAL STUDIES	2	0	2
4	BIOL-306	CELL BIOLOGY	2	0	2
5	CHEM-415	ATOMIC STRUCTURE & PERIODIC CLASIFICATION	2	0	2
6	CHEM-418	CHEMICAL BONDING & NUCLEAR CHEMISTRY	2	0	2
7	GPT-301	MORAL & VALUE EDUCATION	2	0	0

B.Sc. ZBC Sem. –II

S.No	Course Code	Title of the Course	Credit Hrs.		
			L	T	P
1	CHEM-424	INTRO. ORGANIC CHEMISTRY & HYDROCARBONS	2	0	2
2	CHEM-426	CHEMICAL KINETICS, IONIC EQUILIB. & ELECTRO CHEMISTRY	2	0	2
3	BIOL-303	HISTORY OF BOTANY, ALGAE & BRYOPHYTE	2	0	2
4	BIOL-304	INVERTIBRATE-II	2	0	2
5	BIOL-408	MOLICULAR BIOLOGY	2	0	2
6	BIOL-409	BIOLOGICAL TECHNIQUES & INSTRUMENTATIONS	2	0	2

B.Sc. ZBC Sem. –III

S.No	Course Code	Title of the Course	Credit Hrs.		
			L	T	P
1	CHEM-533	CHEMICAL EQUILIB & SOLUTIONS	2	0	2
2	CHEM-535	MAIN GROUP <i>d</i> & <i>f</i> BLOCK ELEMENTS	2	0	2
3	BIOL-411	PTERIDOPHYTE AND GYMNOSPERM	2	0	2
4	BIOL-412	VERTEBRATE	2	0	2
5	BIOL-413	INTRODUCTORY BIOTECHNOLOGY & APPLIED MICROBIOLOGY	2	0	2
6	BIOL-402	FISHERIES	2	0	2

B.Sc. ZBC Sem. –IV

S.No	Course Code	Title of the Course	Credit Hrs.		
			L	T	P
1	CHEM-543	ALIPHATIC & AROMATIC COMPOUNDS	2	0	2
2	CHEM-544	THERMODYNAMICS	2	0	2
3	BIOL-510	TAXONOMY, MORPHOLOGY & ECONOMIC BOTANY	2	0	2
4	BIOL-414	INTRODUCTORY ANIMAL PHYSIOLOGY	2	0	2
5	BIOL-512	LIMNOLOGY & MARINE BIOLOGY	2	0	2
6	BIOL-515	TAXONOMY & EVOLUTION	2	0	2

B.Sc. ZBC Sem. –V

S.No	Course Code	Title of the Course	Credit Hrs.		
			L	T	P
1	CHEM-550	NATURAL PRODUCTS	2	0	2
2	CHEM-551	ISOMERISM & COORDINATIONS CHEMISTRY	2	0	2
3	BIOL-516	ECONOMIC ZOOLOGY	2	0	2
4	BIOL-517	ANIMAL DISTRIBUTION & ECOLOGY	2	0	2
5	BIOL-518	ETHNOBOTANY & PA;EOBOTANY	2	0	2
6	BIOL-520	INTRODUCTORY PLANT PHISIOLOGY	2	0	2

B.Sc. ZBC Sem. –VI

S.No	Course Code	Title of the Course	Credit Hrs.		
			L	T	P
1	CHEM-560	ADV. ORGANIC CHEMISTRY	2	0	2
2	CHEM-564	PHOTOCHEMISTRY & SPECTROSCOPY	3	0	0
3	BIOL-521	ANATOMY AND EMBRYOLOGY	2	0	2
4	BIOL-522	CYTOGENETICS, PLANTBREEDING & EVOLUTION	2	0	2
5	BIOL-525	DEVELOPMENTAL BIOLOGY & ETHOLOGY	2	0	2
6	BIOL-527	GENETICS & CELL BIOLOGY	2	0	2

Semester-1

BIOL 301 Bacteria, Virus, Lichen, Fungi and Plant Pathology 3 (2-0-2)

- Unit I Bacteria, Virus, and Lichens: General description, Classification, Structure, Reproduction & Economic Importance.
- Unit II Fungi: General description, classification, structure reproduction and Economic importance (of Ascomycetes, Basidiomycetes & fungi imperfecti) viz. *Phytophthora*, *Rhizopus*, *Peziza* / *Morchella*, *Ustilago*, *Puccinia*, *Cercospora*
- Unit III Plant pathology: classification of plant diseases & their symptoms, Host - Parasite interaction. Study of few e.g. Citrus canker, Leaf curl of papaya Control mechanism of plant diseases.

Semester-I

BIOL 302 Invertebrate-I 3 (2-0-2)

- Unit I Phylum Protozoa: General characters, classification, structure, habit & habitat, life cycle of any two.
- Unit II Phylum Porifera & Coelenterate: General characters, classification, structure, habit & habitat, canal system in *Sycon*, polymorphism in coelenterate & coral reef formation.
- Unit III Phylum Platyhelminthes: General characters, classification, structure, habit & habitat, life cycle of *Taenia solium*, parasitic adaptations in platyhelminthes.
- Unit IV Phylum Aschelminthes: General characters, classification, structure, habit & habitat, plant parasitic nematodes, life cycle of *Ascaris*.

Semester-I

Atomic Structure & Periodic Classification

Code-CHEM-415

3(2-0-2)

Unit I: Structure of atom: Quantum and wave mechanical approaches to the structure of atom.

Unit II: Periodic classification and Properties: (a) Mendeleef, Modern, Extended and long form.

(b) Periodic properties: Atomic and ionic radii, crystal co-ordination no., Radius ratio, factors influencing magnitude of ionic radii. Periodic variations of atomic and ionic radii.

Ionization energy, electron affinity and electronegativity.

Semester-I

INTRO ORGANIC CHEMISTRY & HYDROCARBONS

CHEM-418

3(2-0-2)

Unit 1: Organic Reactions and their Mechanisms: Electron displacement effects. Bond fission, Carbonium ions Carbanions. Attacking reagent and their role. Types of reaction mechanisms and Organic reactions.

Unit-2: Alkanes: Structure, Nomenclature, Isomerism, Preparation, Properties.

Unit 3: Alkenes: Structure, Nomenclature, Isomerism, Preparation, Properties.

Unit 4: Alkyl Halids: Structure, Nomenclature, Isomerism, Preparation, Properties.

Unit 5: Organo metallic compounds: Grignard Reagent Structure, Preparation, Properties.

Unit 6: Alcohols: Introduction, Classification. Structure, Nomenclature, Isomerism Preparation, Properties

Semester-I
MORAL & VALUE EDUCATION

GPT-301

Credit Hrs.2-0-0

Objectives:

- To mould the students with a good moral character.
- To create awareness of the responsibility towards other creations.
- To impart values of humanity and solidarity in the local, national and international levels.

1. Background of Value Education.

- What is Value Education?
- Importance of Value Education.
- Definition of Values, Morals and Ethics
- The Aims and Objectives of Value Education.
- Culture and Values and Values Crisis.
- Some Areas of Concern in Value Education- Education for peace, respect for life, justice, issues of women, job-oriented education, faith in God, democracy, self-respect, ecology, the meaning of success, noble truths in all religions).

2. My Country, My People.

- Truly Indian, Really Modern, Deeply Human
- Nationalism and Internationalism
- The Fundamental Rights and Duties of Citizen

3. Inter personal Relationship.

- Areas of interpersonal relationship the home, among friends etc.)
- Issues hindering Inter-personal relationship.
- Towards improving inter-personal relationship

4. Personality Development.

- Definition of personality
- Elements and Stages of Personality Development

5. Motivations and Will Power.

- Motivation for Study
- Motivation and Setting Goals
- Decision Making

6. Choice of Vocation/ Career Guidance

- Sociologists and Psychologists' Contribution
- Implications for Counseling
- Youth and Career (objectives, components and career planning)
- Career Development Activities.

7. Some Issues and Concerns in Moral Education.

Morality and Religion (Traditional morality and religious faith views and debates on morality and religion), Spiritual Nature of Man. Marriage. Love and Sexuality, Aids, Abortion. War and Terrorism, Corruption as Omnibus, During Addiction and Alcoholism, Tobacco and its Evils, Women issues (Gender Inequalities). Ecological, Crisis, Human Right Issues, Media and its Impact, Value of Work and Value of Time Indian Education System, Human Communication.

Recommended Reading:

Jacob Mani, *ed. Resource Book for Value Education* (New Delhi, Institute of Value Education, 2002)

Semester-II
CHEMICAL BONDING & NUCLEAR CHEMISTRY

Code-CHEM-424

3(2-0-2)

Unit I: Chemical Bonding: Co-valent, Ionic, Metallic, Hydrogen, Vander Waals, Lattice energy, Hydration energy, Fajan's rule, Co-ordinate bond.

Unit II: Nuclear and Radiochemistry.

Semester-II
PHYSICAL CHEMISTRY

CHEM-426

Credits: 3(2 – 0 – 2)

Unit 1: Theory of Acids and bases, titratable and actual acidity, ionic product of water, relation of pH and OH⁻ ions in solution, pH and its determination, buffers.

Unit II: Osmosis, Osmotic pressure, laws of osmotic pressure.

Unit III: Oxidation Reduction Reactions, Redox potential.

Unit IV: Catalysis: Classification, general properties of catalytic reaction, homogenous and heterogeneous catalysis and their theories, enzymes catalysis.

Unit V: Colloids: Classification, preparation & properties, emulsions, gels, lumps and clay and their uses in agriculture.

Unit VI: Elementary study of radioactivity uses of radioisotopes in Agriculture and other areas.

Unit VII: General study of volumetric, gravimetric, colorimetric, chromatographic and electrophoretic analysis.

Practicals:

1. Preparation of deci-normal solution of oxalic acid ($\text{H}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$)
2. Standardization of Sodium Hydroxide Solution
3. Dilution of NaOH to exact decinormal solution
4. Preparation of Standard Decinormal solution of Hydrochloric or Sulphuric acid
5. Standardization of KMnO_4 solution
6. Determination of Ferrous Iron with KMnO_4
7. Determination of Iron by Potassium Dichromate ($\text{K}_2\text{Cr}_2\text{O}_7$)
8. Determination of Calcium
9. Determination of Copper

Books Recommended:

1. Essential of Physical Chemistry: Bahl, Tuli & Bahl
2. Principle of Physical Chemistry: Puri, Sharma, Pathamni
3. Principle of Physical Chemistry: Samuel G.Lasstone
4. Physical Chemistry: Puri, Freeman
5. Basic Principle of Practical Chemistry: Venkatesh Waran, Veeraswamy & Kulastaivelu

Semester-II
History of Botany, Algae and Bryophyte

BIOL 303

3 (2-0-2)

- Unit I Scope of Botany, Phylogenetic trends in botany, contribution of some India Scientist like B. Sahni, M.O.P. Iyengar, P. Maheswari, S. R. Kashyap
- Unit II General Description, classification & economic importance of Algae. Important feature of at least two members of each: Cyanophyceae, Chlorophyceae, Xanthrophyceae, Bacillariophyceae, Phaeophyceae & Rodophyceae.
- Unit III General description, classification & economic importance of Bryophytes. External morphology, Anatomy & reproduction & life cycle of thalloid & leafy bryophytes with special reference to alternation of generation.

Semester-II
Invertebrate - II

BIOL 304

3 (2-0-2)

- Unit I Phylum Annelida: General characters, classification, structure, habit & habitat, metamerism in Annelida, Economic importance of Earthworm.
- Unit II Phylum: Arthropoda: General characters, classification, Insects metamorphosis, Palaemon, Economic importance of Arthropods.
- Unit III Phylum Mollusca: General characters, classification, Torsion & Desertion in Gastropoda, Economic importance of mollusca.
- Unit IV Phylum Echinodermata: General characters, classification, water vascular system in star fish, Regeneration & Autonomy.

PRACTICAL

- Study of morphology of the preserved invertebrate animals in the laboratory.
- Dissection-Cockroach, Grasshopper, Prawn.

Semester-III

BIOL 411 Pteridophyte and Gymnosperm 3 (2-0-2)

- Unit I Introduction, classification & Economic importance of Pteridophytes. Evolutionary trends.
- Unit II Study of the following genera: *Rhynia Lycopodium, Selaginella, Marsilea* and *Pteris* stellar evolution, Heterospory, evolution of seed Habit in Pteridophytes.
- Unit III Introduction, classification and Economic importance of Gymnosperms
- Unit IV Study of the following genera: *Cycas, Pinus & Ephedra*.

BIOL 412 Vertebrate 3 (2-0-2)

- Unit I Super class: Pisces & Class: Amphibia- General characters, classification, types of fins & scales of fishes, Economic importance of fish, parental care in Amphibia.
- Unit II Class-Reptilia: General characters, classification, Biting mechanism of poisonous snakes. Snake venom & antivenin, poisonous & non-poisonous snakes of India.
- Unit III Class: Aves General characters, classification, Birds migration, Adaptations of birds to aerial life.
- Unit IV General characters, classification and Origin of mammals, Aquatic mammals.

PRACTICAL

- To study the museum specimen of vertebrate.
- Dissection –candidates will be required to show knowledge of classification, Morphology & Anatomy of the following animals through the methods of
- Chart preparation – (Frog, Bird, Rat and Lizard).

BIOL 413 Introductory Biotechnology and Applied Microbiology 3(2-0-2)

- Unit I History, Development, scope & terminology of biotechnology Recombinant DNA technology, Gene manipulation through protoplast Culture somatic hybrids & cybrids. Gene transfer. Application of Genetic Engineering in Medicine, Industry & Agriculture.
- Unit II History, definition & scope of microbiology, classification & mode of Nutrition in bacteria. Basic knowledge of soil, water, sewage, milk, food Industrial & air microbiology.

BIOL 402

Fishery Science

2(2-0-0)

Unit I A general account of the classification of Elasmobranchii, Holocephali, Dipnoi and Teleostomi

Unit II Study of external structures – fins, skin, scales and other dermal structures. Anatomy and Physiology of fish. Economic importance of fish and its products

Unit III Diseases of fish – external and internal – its remedies

Unit IV Fishery technology – methods of curing, preservation, canning, refrigeration and transport, fishing gear and their uses

PRACTICAL

- Dissection of the internal Anatomy – Heart, Afferent and Efferent Branchial Arteries of locally available fish.
- Study of permanent mounts of various kinds of fish scales
- Collection of fresh and marine water fishes by a variety of coarse mesh nets – preserving them by wet preservation method – study of their characteristics.

Semester-IV

Code-CHEM-543

MAIN GROUP, d & f-BLOCK ELEMENTS

3(2-0-2)

Unit I: Main group elements: Alkali and Alkaline earth metals and p- block elements.

Unit II: Inter halogen compound and pseudo halogens.

Unit III: d-block elements.

Unit IV: Platinum metals.

Unit V: f- block elements.

THERMODYNAMICS

CHEM-544

3(2-0-2)

UNIT-I Thermodynamics terms, statement of law, thermodynamics reversibility and maximum work, enthalpy of the system, heat capacity at constant volume and as constant pressure, Extensive and intensive properties, state functions cyclic rule, temperature and volume, enthalpy as a function of temperature and pressure, Joule-Thomson effect.

UNIT-II Spontaneous processes, carnot cycle, statement of second law, concept of entropy, combined form of the first and second law of Thermodynamics, enthalpy and entropy. Thermodynamics equation of state (energy as a function of V, & T, enthalpy as a function of T & P), entropy in isolated system, variation of entropy with temperature & volume, variation of entropy with temperature and pressure, Entropy change in chemical reaction. Helmholtz and Gibbs free energies. Properties of Gibbs-Helmholtz equation.

UNIT-III Law of mass action (thermodynamic derivation, reaction isotherm and Vant Hoff equation (influence of temperature on equilibrium constant), Partial molar quantities, Chemical potential, Gibbs Duhem equation, Effect of temperature and pressure on chemical potential, Chemical potential of real gases and fugacity, Thermodynamic treatment of colligative properties (lowering vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure).

Semester-IV

BIOL 510 Taxonomy, Morphology and Economic Botany 3 (2-0-2)

- Unit I Broad out line of morphology of vegetative & reproductive organ of Angiosperms.
- Unit II Principles of Systematics, classical & modern taxonomy, Rules of nomenclature. Comparative study of different classification systems proposed. General morphology of flower & its parts. Taxonomic studies of some important families.
- Unit III Use of plants for human welfare with special reference to: Food plants, Drug yielding plants, Timber, Masticatories & Fumicatories, Beverages, Rubber, Edible oils, Dyes, Resin, Toxin & Gums.

BIOL 512 Limnology And Marine Biology 3 (2-0-2)

- Unit I Elementary knowledge of marine biology & limnology. Factors influencing growth of fresh water & marine flora.
- Unit II A general study of morphological & reproductive features of micro & macrophytes growing in sea water. A knowledge of a biotic factors (physical & chemical properties of-water) and biotic factors (plankton, periphyton, macrophytes, benthos & decomposers).

BIOL 515 Taxonomy & Evolution 3 (2-0-2)

- Unit I Principles of systematics & taxonomy, general classification of animals, Definition, use & application of International code of Zoological nomenclature. Biological species concept.
- Unit II Origin of life, Synthetic theory of evolution selection, mutation, migration and mimicry.

PRACTICAL

- Study of preserved animals in the laboratory for identification of various Species.

Semester-V

Code-CHEM-550

NATURAL PRODUCTS

3(2-0-2)

Unit 1: Heterocyclic Compounds: Five membered rings Pyrrole: Structure, Preparation, Properties Furan structure, preparation, properties. Thiophene: structure, preparation, properties. Six membered rings: structure, preparation, properties. Pyridine: structure preparation, properties.

Unit 2: Alkaloids: Classification, Determination of Structure Coniine, Nicotine, Atropine Structure and Properties.

Unit 3: Terpenoids: Isoprene rule, Classification, Structure and Properties of Myrcene, Citral, Camphor.

Unit 4: Polymers: Addition Polymers, Copolymers, condensation Polymers, Thermoplastic and Thermo setting Polymers, Natural and Synthetic Rubber.

Unit 5: Introduction to Spectroscopy: Ultraviolet and Visible Spectroscopy (UV), Infrared Spectroscopy (IS), Nuclear Magnetic Resonance Spectroscopy (NMR), Mass Spectroscopy (MS).

Books Recommended:

1. Reaction Mechanism: S.M.Mukherjee & S.P.Singh.
2. Advanced Organic Chemistry: B.S.Bahl & Arun Bahl.
3. Advanced Organic Chemistry: P.L.Soni & H.M.Chawla
4. Advanced Organic Chemistry: M.K.Jain.
5. Chemistry of Natural Products: O.P.Agarwal.
6. Chemistry of Natural Products: I.L.Finar.

Code-CHEM-551

ISOMERISM & CO-ORDINATION CHEMISTRY

3(2-0-2)

Unit I: Co-ordination Chemistry: Introduction, Nomenclature, Crystal field theory, Valence-shell electron pair theory.

Unit II: Isomerism

Unit III: Non aqueous solvent

Semester-V

BIOL 516

Economic Zoology

3 (2-0-2)

- Unit I Protozoa: Protozoan parasitic diseases of man & domestic animals with special reference to Endameba histolytic & plasmodium. Platyhelminthes: Life cycle & zoonotic significance of *Taenia solium*.
- Unit II Arthropoda: Beneficial & harmful insects-Honeybee, silkworm, lac, Termite,& locust, dengue, encephalitis-their prevention & control.
- Unit III Aqua culture- basic concepts, management & economics (pearl culture, Prawn culture fish & fisheries).

PRACTICAL

- Study the life cycle of economically important animals-sericulture, apiculture & Lac culture.
- Collection of harmful & useful insects from field & to study their cycle- -by project work.

BIOL 517

Animal Distribution & Ecology

3 (2-0-2)

- Unit I Animal distribution-geological & geographical distribution of animals. Factors influencing large scale animal distribution, barriers & dispersal. Nature, age & importance of animal fossils of different geological strata. Wildlife conservation.
- Unit II Ecology-definition & scope of ecology, concept of structure & function of ecosystem Tropic levels. Energy flow & concept of pyramids, adaptations of animals in deserts & freshwaters.

PRACTICAL

- Qualitative study of planktons; Study of adaptation in animals of different ecosystems eg.- Ocean Sea, desert, nocturnal & hills team by chart preparation methods.
- Qualitative & Quantitative study of soil organisms.

Semester-VI

ADVANCED ORGANIC CHEMISTRY

CHEM-560

3(2-0-2)

Unit-1 Organic Photochemistry:- Heterocyclic, Nomenclature, synthesis & reaction of following compounds containing one heteroatom – Structure, preparation & properties.

- (i) Five membered ring system:- Furan, pyrrole, thiophene.
- (ii) Six membered ring:- Pyridine

Unit 2:Polymers: Addition Polymers, Copolymers, condensation Polymers, Thermoplastic and Thermo setting Polymers, Natural and Synthetic Rubber, polyethene & PVC.

Unit-3 Introduction to Spectroscopy:- UV & Visible, IR, NMR, Mass Spectroscopy.

Unit-4 Some reactions of Industrial Importance:- Hoffman, Diel's Alder, Skraup, Bechmann, Cannizaro and Riemann Teimann.

PHOTOCHEMISTRY & SPECTROSCOPY

CHEM-564

3(2-0-2)

Unit-I Photochemistry: Photochemistry and thermal reactions, Chain reaction, free radical chains, thermal decomposition of acetaldehyde and ethane, Lambert and Beer's law, Grothus Draper's law, Elinstin law of decomposition of hydrogen-iodide, hydrogen-bromine etc, Fluoescence, Photosensitization, Phosphorescence Chemiluminescence.

Unit II: Spectroscopy

- (a) UV
- (b) IR
- (c) NMR
- (d) Raman
- (e) Mass

Semester-VI

BIOL 521 Anatomy and Embryology 3 (2-0-2)

Unit I Broad outline of anatomy of vegetative & reproductive organs of angiosperms. An account of normal primary & woody plants. Primary anomaly. Anomalous secondary growth in *Boerhaavia*, *Bignonia*, *Dracaena* and *Chenopodium*.

Unit II Nodal Anatomy and Anatomy of leaf

Unit III A brief history of Embryology, development of anther & pollen, Microsporogenesis, anther dehiscence & viability curvature of ovule leading to different types, megasporogenesis & mono, bi & tetra sporic type of embryo-sacs. Types of embryogeny. General account of apomixis & polyembryony. Development of seed.

BIOL 522 Cytogenetics, Plant Breeding and Evolution 3 (2-0-2)

Unit I Structure of Prokaryotic & Eukaryotic cells. Organization & function of cell & its components cell cycle, Mitosis, amitosis & meiosis. Elements of heredity and variation: Mendel & his experiments, Principles of segregation & independent assortment, test & back cross. Concept of gene, Linkage & crossing over, mutation & mutagens. Sex determination in plants

Unit II Introduction to plant breeding, methods, principles & practices of convention. Methods of breeding in self & cross pollinated crops & asexual or vegetatively propagated plants.

Unit III Organic origin of life & evolution, evidences, mechanisms & theories.

BIOL 525 Developmental Biology & Ethology 3 (2-0-2)

Unit I Growth & aging- concept of growth, degrowth & cell death. Mechanism of Growth, Growth curves & their interoperation. Types of cell growth, Aging.

Unit II Ant predator behavior- fighting, fleeing protective armour, chemical defense, camouflage, warning signals & startle displays. Fighting behavior- Low animals mark their territories & defend them, Perform threat displays.

Unit III Social behavior – advantage of being social, Low animals establish social Leirarchies, mating groups. Courtship displays & behavior.

PRACTICAL

- Field study of various kinds of animal behavior.
- Preparing projects & charts on the related topics.

BIOL 527**Genetics & Cell Biology****3 (2-0-2)**

- Unit I Genetics- Mitosis & meiosis. Mendel's law of inheritance, linkage & Crossing over, Human Chromosomes & human chromosomal abnormalities, Sex-linkage & Sex determination in Drosophila & man, Blood group & Hemoglobin Genetics in man, DNA & RNA structure Genetic code
- Unit II Cell Biology – Nucleus, Nuclear membrane & nucleolus, polytene & lampbrush chromosomes, structure & function of plasma membrane, Golgi apparatus, mitochondria, lysosomes, Endoplasmic reticulum & Ribosomes, Cilia, Flagella, Microtubules & Microfilaments.

PRACTICALS

- Construction of human familial pedigree utilizing inheritance pattern of a single Autosomal or sex linked gene.
- Genetical problems
- Demonstration of Bare body & mitochondria in buccal epithelium of man
- Study of temporary squash preparation of grasshopper testes for mitosis, meiosis.