

LESSON PLAN B.Sc Medical

ODD SEMESTER

SESSION 2023-24

Sr. No. Class

Teacher's Name

1 B.Sc. Medical 1 Sem

Life and Diversity from Protozoa to Helminthes (1.1)

AARANKSHA , SUSHILA , SHALINI

Cell Biology (1.2)

AARANKSHA , SUSHILA , SHALINI

2 B.Sc. Medical 3 Sem

Life and Diversity of Chordates - I (3.1)

RAKHEE , ANJALI , SANJU

Mammalian Physiology - I (3.2)

RAKHEE , ANJALI , SANJU

3 B.Sc. Medical 5 Sem

Fish & Fisheries (5.1)

BHARTI , SUMAN , SHWETA

Ecology and Evolution (5.2)

BHARTI , SUMAN , SHWETA

Lesson plan of Zoology Department (2023-24) Odd semester

[Paper 1.1]

Subject- LIFE AND DIVERSITY FROM PROTOZOA TO HELMINTHES

Class-B.Sc medical Sem-1

Faculty Name- Aakanksha Yadav, Shalini Yadav and Sushila

Time Period	Topics covered
August	Phylum- Protozoa i) General characters and classification up to order level
	ii) Biodiversity and economic importance
	iii) Type study of Plasmodium;
	iv) Parasitic protozoans: Life history, mode of infection and pathogenicity of Entamoeba, TEST
	Trypanosoma, Leishmania and Giardia., TEST
September	Phylum- Porifera: i) General characters and classification up to order level
	ii) Biodiversity and economic importance iii) Type study - Sycon.
	iv) Canal system in sponges,. v) Spicules in sponges ,
	TEST , Assignment
October	Phylum - Coelentrata: i) General characters and classification up to order level
	ii) Biodiversity, economic importance
	iv) Corals and coral reefs, v) Polymorphism in Siphonophores
	TEST
November	Phylum - Helminths: i) General characters and classification up to order level
	ii) Biodiversity, economic importance
	iv) Helminths parasites: Brief account of life history, mode of infection and pathogenesis of Schistosoma, Ancylostoma, Trichinella, Wuchereria and Oxyuris.
	TEST , Assignment

Lesson Plan-2023-24

Subject- Cell Biology

Class-B.Sc medical Sem-1

Faculty Name- Aakanksha Yadav, Shalini Yadav and Sushila

[Page 1.2]

Time Period	Topics covered
August	Plasma Membrane: Fluid mosaic model
	various modes of transport across the membrane, mechanism of active and passive transport
	endocytosis and exocytosis.
	Endoplasmic reticulum
	role of ER in protein synthesis and transportation in animal cell. Test , Assignment
September	Golgi complex: Structure, Associated enzymes and role of golgi-complex in animal cell.
	Ribosomes: Types, biogenesis and role in protein
	Lysosomes: Structure, enzyme and their role; polymorphism
	Mitochondria: Mitochondrial DNA; as semiautonomous body, biogenesis Test
October	mitochondrial enzymes (only names), role of mitochondria. Cytoskeleton: microtubules
	microfilaments, centriole and basal body
	Cilia and Flagella
	Ultrastructure and functions of Nucleus: Nuclear membrane, nuclear lamina test , Assignment
November	nucleolus, fine structure of chromosomes, nucleosome concept and role of histones
	Euchromatin and heterochromatin, lampbrush chromosomes and polytene chromosomes.
	Mitosis and Meiosis (Cell reproduction)
	Brief account of causes of cancer. An elementary idea of cellular basis of Immunity Test.

Lesson plan B.Sc. Medical 2023- 24

Odd semester (3th semester)

[Paper 3.1]

Life and Diversity of Chordates –I

Teacher's name: Anjali Yadav, Sanju Mohan, Rakhee Chauhan

July and August

Introduction and classification of carbohydrates and lipids

September

Principle of classification, origin and evolutionary tree

Role of amnion in evolution, salient features of chordates

Functional morphology of the types with examples

Economic importance and conservation measures

Class test , Assignment

October

General characters and classification of phyla up to orders

Systematic position, distribution, ecology, morphology and affinities

Urochordata: Herdmania

Amphioxus – type study

Class test

November

General characters of cyclostomes

Type study of pteromyzon

Class test , Assignment

December

General characters of pisces

Parental care in fishes

Fish migration and Type study of labeo

Class test and Revision

Odd semester (3rd semester)

Mammalian physiology- I

[P-3.2]

Teacher's name: Anjali Yadav, Sanju Mohan, Rakhee Chauhan

July and Aug

Introduction and classification of carbohydrates and lipids

September

Function of carbohydrates and lipids

General properties of carbohydrates and lipids

Introduction, Classification of proteins

Nomenclature and classification of enzymes action

Class test , Assignment

October

Transport through bio membranes

Buffers and general properties of protein

Nutritional components- carbohydrates, fats, lipids, vitamins and minerals.

Types of nutrition and feeding, digestion of lipids

Class test

November

Digestion of proteins and carbohydrates

Symbiotic digestion and nucleic acid digestion

Absorption and assimilation, control of enzyme action

Types of muscles, ultra-structure of skeletal muscles, biochemical and physical events during muscle contraction

Class test , Assignment

Subject: Fish and Fisheries (P 5.1)

Class: BSc Medical (5th) Sem

(P 5.1)

Faculty name: Shweta Yadav, Bharti Khurana, Suman.

Time Period	Topic Covered
July and August	Introduction to Fisheries and aquaculture
September	Utilization and demand. Fresh Water fishes of India: River system Reservoir, pond, tank fisheries; captive and culture fisheries, cold water fisheries. Tests , <i>Assignment</i>
October	Fishing crafts Gears, Fin fishes Crustaceans and their culture Tests
November	Molluscs and their culture Seed production: Natural seed resources and its assessment Natural seed resources – collection, Hatchery production Nutrition: Sources of food (Natural, Artificial) Tests , <i>Assignment</i>
December	feed composition (Calorie and Chemical ingredients). recycled water, cage, culture; poly culture, Culture technology: Biotechnology gene manipulation, cryopreservation of gametes. Test and revision

Lesson plan of Zoology department

Lesson plan -23-24

Subject -Ecology and evolution

Class- Bsc medical sem 5th

[P-5.2]

Faculty name- Suman, Bharti Khurana, Shweta Yadav

Time Period	Topics covered
July and August	Basic concepts: Definition, significance of ecology.
September	Concept of Habitat & ecological niche. Environmental factors: Abiotic -Light, Temperature. Humidity, Topography, edaphic factors. Biotic factors. , Test , Assignment
October	Test and doubt class Ecosystem concept, components , property & function. Ecological energy and energy flow, food chain food web.
November	Test and doubt class. Biogeochemical cycles Trophic structure ecological pyramids & productivity Population ,origin of life ,Test and doubt , Assignment
December	Concept of evidence of organic evolution , Theory of organic evolution. Concept of micro,macro and mega evolution. phylogeny of horse and evolution of man Test and revision

LESSON PLAN B.Sc Zoo. (Hons.)

ODD SEMESTER

SESSION 2023-24

Sr. No.	Class	Teacher's Name
1	B.Sc. Zoo.(Hons.) 1 Sem	
	Introduction to biology (101)	SANGEETA
	Biodiversity I - Non Chordata (102)	AMBIKA
	Biodiversity II - Non Chordata (103)	AMBIKA
	Botany I - Plant Diversity (105)	MANISHA
	B.Sc Bot.(Hons.) 1 Sem	
	Zoology I - Biodiversity I Non Chordata (105)	ANJALI
2	B.Sc. Zoo. (Hons.) 3 Sem	
	Cell Biology I (301)	SHALINI
	Molecular Biology I (302)	NAVEETA
	Animal Physiology & Histology II (303)	SUSHILA
	B. Sc Bot. (Hons.) 3 SEM	
	Botany III - Plant Anatomy, Reproduction & Biotechnology (BOT 305)	SANGEETA
	Animal Physiology & Histology (305)	NAVEETA
3	B.Sc. Zoo. (Hons.) 5 Sem	
	Genetics & Genomics I (501)	AAKANKSHA
	Organic Evolution (502)	BHARTI
	Immunology I (503)	SAPNA YADAV
	Biochemistry & Metabolism (504)	SAPNA TANWAR
	Computer & Biostatistics (505)	SAPNA TANWAR.

Paper 101

Lesson plan B.Sc. Zoology (Hons) 2023- 24

Odd semester (1st semester)

Introduction to Biology

Teacher's name: Sangeeta

July and August

Introduction to concept of biology theme in study of biology, a closer look at ecosystem and closer look at cell, science biology and everyday life, evolutionary history microevolution phylogeny , prokaryote eukaryotes and archaea.

September

Darwinian life and origin of species theory of evolution, evolution of population , species, speciation , genetic approach to biology , pattern of inheritance variation in mendal law flow of genetic information from DNA to RNA to protein genetic variation methodology to study gene and gene activity phenotype and genotype model organism. , Test, Assignment

October

Chemistry of life, matter, atom, levels of electron function of molecule chemical reactions and chemical bond water molecule it's properties and it's ionisation.

Class Test , Assignment

November

Carbon and life, organic chemistry and properties of organic compounds

Class Test Structure and function of biomolecules macromolecules polymers carbohydrates, lipid and proteins nucleic acid transmission of hereditary information

Revision

December

Full Syllabus Revision and test

(P 102)

Lesson plan- 2023-24

Bsc Zoology hons. 1st year (1st sem)

Subject- Biodiversity I NonChordata (102)

Teacher's name- Ambika Jindal

Time period	Topics covered
August	General characters and outline classification of different phyla Protozoa General characters and outline classification Locomotion and reproduction in Protozoa. Type study of Paramecium Class test , <i>Assignment</i>
September	Type study of Paramecium, Plasmodium Structure and life history, Origin of metazoa, metamerism and coelom. Phylum Porifera General characters and outline classification, Canal System and spicules in sponges Class test
October	Type study of Sycon: Structure and life history, General characters and outline classification Polymorphism in Cnidarians; corals and coral reefs Class test , <i>Assignment</i>
November	General characters and outline classification of Aschelminthes, Type study of Ascaris: Structure and life history; parasitic adaptations. Revision

(P103)

(P103)

Lesson plan- 2023-24

Bsc Zoology hons. 1st year (1st sem)

Subject- Biodiversity II NonChordata (103)

Teacher's name- Ambika Jindal

Time period	Topics covered
August	Phylum Annelida: General characters and outline classification Adaptive radiations in Polychaeta. Type study of Leech: Structure and life history. Class test , <i>Assignment</i>
September	Type study of Leech, Phylum Arthropoda: General characters and outline classification. Larval forms of crustacea; social life, moulting and metamorphosis in Insecta; vision in Arthropoda, Affinities of Onychophora Class test
October	Type study of Scorpion: Structure and life history, Phylum Mollusca: General characters and outline classification Torsion and detorsion; modifications of shell and foot. Type study of Pila: Structure and life history. Class test , <i>Assignment</i>
November	Phylum Echinodermata: General characters and outline classification Water-vascular system and larval forms. Type study of Asterias: Structure and life history. Revision

Zoo H

Botany
Subsidiary

P 105

Lesson plan zoology (hons.) 2023-24

Odd semester (1st semester)

BOTANY I (PLANT DIVERSITY) (P- 105)

Teacher's name: Dr Manisha Sharma

Time period	Topics covered
<p>August Unit I Algae, Fungi and Lichen: Salient features, habitat, range of thallus structure, reproduction and broad classification of algae; General account, classification and reproduction in fungi; Brief account of Lichen and Mycorrhiza, Economic importance of algae, fungi and lichens Class test , Assignment</p>	
<p>September Bryophytes and Pteridophytes: General characteristics, broad classification and reproduction in Bryophytes and Pteridophytes; Ecological and Economic importance of Bryophytes; Evolution of stellar system and seed habit in Pteridophytes Class test , Assignment</p>	

October

Gymnosperms: Salient features and diagnostic characters of; Distribution in India, Pteridospermic seeds and evolution of seed habit in gymnosperms, Economic Importance with reference to Wood, Resins, Essential oils and drugs.

Class test

November

Angiosperms and Taxonomy: Botanical nomenclature and Elementary knowledge of International Code of

Botanical Nomenclature, Role of Herbaria and Botanical Gardens, Broad outline of Bentham & Hooker system of classification with merits and demerits Class test

Revision

Odd semester (1st semester)
PAPER 5 BOT- 105 Zoology 1
BIODIVERSITY-I: NON-CHORDATA

Teacher's name: Anjali Yadav

August

Protozoa General Characters and Reproduction in Protozoa.

Origin of metazoan, class test

Porifera General characters

September

Structural organization of Sycon

Cnidaria General Characters and Polymorphism in Cnidarians

Platyhelminthes General Characters and Fasciola: Structure and life history, Class test, *Assignment*

October:

Aschelminths General characters and Life history of Ascaris and its parasitic adaptations

Annelida General Characters and Adaptive radiations in Polychaeta., Class test

Fasciola: Structure and life history

Life history of Ascaris

November

Arthropoda General Characters and Larval forms of crustacea; metamorphosis in Insecta

Mollusca General characters and Torsion and detorsion, Class test, *Assignment*

Life history of Ascaris

December

Echinodermata General Characters and Water-vascular system and larval forms

Water-vascular system, Revision, Full Syllabus test

[Paper 301]

Lesson plan of Zoology Department (2022-23) Odd Sem

Lesson Plan-2023-24

Subject- cell biology (301)

Class-B.Sc zoo hons Sem-03

Faculty Name-Shalini yadav

Time Period	Topics covered
July	An Overview of cells- Overview of prokaryotic and eukaryotic cells. Cell size and shape, Phages, Viroids, Mycoplasma (PPLO) and E. coli.
August	Tools and techniques- Principles of light microscopy; Phase contrast microscopy. Electron microscopy (EM)- Scanning EM (SEM) and scanning transmission EM (STEM); Fluorescence microscopy. Analytical tools and techniques - Flow cytometry- Fluorochromes, fluorescent probe and working principle; Spectrophotometry; mass spectrometry; X- ray diffraction analysis TEST , Assignment
September	Separation tools and techniques - Subcellular fractionation- differential and density gradient centrifugation Chromatography- paper, thin layer, gel filtration, ion exchange, affinity and high performance liquid chromatography (HPLC) Composition of cells- Molecules of cell; cell membrane and cell proteins TEST
October	The Nucleus- nuclear envelope- structure of nuclear pore complex, nuclear lamina, Transport across nuclear envelope. Nuclear chromatin: molecular organization, Nucleolus and rRNA processing. Protein sorting and transport- Endoplasmic reticulum, The Golgi apparatus, mechanism of vesicular transport, Lysosomes. Mitochondria- structural organization, function, marker enzymes, mitochondrial biogenesis, TEST , Assignment
November	Protein import in mitochondria, Semi autonomous nature of mitochondria, mitochondrial DNA. Chloroplast- structural organization, light dark reaction, semi autonomous nature of chloroplast, chloroplast DNA Cytoskeleton- Microtubules; microfilaments; intermediate filament Cell movement- structure and organization of actin filament, actin, myosin filament and cell movement. TEST

P 302

Lesson Plan-2023-24
Subject-Molecular Biology-I (302)
Class-B.Sc Zoology (Hons) Sem-III
Faculty Name- Naveeta Yadav

Time Period	Topics covered
July	Nucleic acid convey genetic information- DNA as the carrier of genetic information
August	Key Experiments establishing the central dogma, DNA double helix and double stranded model. Genetic code, Direction of protein synthesis (Translation), Genomics.
September	The Structure of DNA/RNA (genetic material)- DNA Structure: Miescher to watson crick- historic prospective. DNA structure, Salient features of double helix, Types of DNA. <i>Test Assignment</i>
October	Types of genetic material, denaturation and renaturation, cot curves, DNA topology- linking number, topoisomerases. Organization of DNA - Prokaryotes, Viruses, Eukaryotes, RNA structure Organelle DNA- Mitochondria and Chloroplast DNA , <i>Test</i>
November	Genome Structure- Genome sequence, chromosome diversity, chromosome Duplication and Segregation Chromatin Structure- Euchromatin, Heterochromatin- Consecutive and facultative heterochromatin Nucleosome- Regulation of chromatin structure and nucleosome assembly; organization of chromosomes. The Replication of DNA in Prokaryotes and Eukaryotes- Chemistry of DNA Synthesis, Genetic principles- Bidirectional, Semiconservative and semi discontinuous replication. , <i>Assignment</i>
December	RNA priming, Various models of DNA, Replication including rolling circle, D-loop, (mitochondrial). Theta mode of replication, Replication of linear dsDNA, Replication of 5'end of linear chromosome. Enzymes involved in DNA replication- DNA Polymerases, Ligase, Polymerase, Telomerase and other accessory proteins. The Mutability and Repair of DNA- Replication Errors, DNA Damage and their repair

Lesson Plan-2023-24

Subject- ANIMAL PHYSIOLOGY & HISTOLOGY -II

Class-B.Sc (H) zoology Sem-3

Faculty Name- Sushila

[Papu 303]

Time Period	Topics covered
July	Excretory System Histology of kidney,
August	ureter and bladder; Renal blood supply; Mechanism and regulation of urine formation; Regulation of acid-base balance..
	Test , <i>Assignment</i>
September	Nervous System General organization: Neuron resting membrane potential and its basis; Origin of action potential and its propagation in myelinated and unmyelinated nerve fibers; Synaptic transmission and types of synapsis, Neuro-muscular junction; Reflex activity-reflex arc; Types of reflexes, Physiology of hearing and vision.
	Test
October	Reproductive System Histology of male and female reproductive systems, Puberty, physiology of male and female reproduction; Methods of contraception (depicted through flow chart).
	Test , <i>Assignment</i>
November	Endocrine System Structure, histology and functions of endocrine glands; Hypothalamus-principal nuclei involved in control of endocrine system, control of anterior pituitary hormones by hypothalamic releasing hormones (neuroendocrine mechanisms); Effects of abnormal secretions of hormones; Placental hormones.
	test

Paper BOT 305

Lesson plan of zoology department
Lesson plan -23-24
Subject – Botany III (305)
Class- B.Sc. zoo hons. sem 3th
Faculty name- Sangeeta

Time Period	Topics covered
July- August	Plant anatomy , classification and structure of tissue, organization of shoot and root, structure of dicot and monocot leaf
	Secondary growth in root and stem anatomical growth of root and stem.
	Adaptive structure in hydrophyte and xerophyte
September	Plant reproduction structure of male and female gamatophyte microsporogenesis, megasporogenesis.
	Pollination and fertilisation , endosperm and it's type, embryogenesis
	Test and doubt class , <i>Assignment</i>
	Pollen pistal interaction and self incompatibility
October	Plant tissue culture, historical perspective and media composition, totipotency.
	Physio chemical condition for propagation of plant cell and tissue embryogenesis and protoplast isolation.
	Culture and fusion , cybrid , micropropagation.
	Method and significance of haplod culture.plant genetic engineering
November	Brief concept of different gene transfer method
	Role of plant biotechnology in crop improvement with special reference transgenic plant
	Application of plant biotechnology in production of oil
	Industrial enzyme and edible vaccine , <i>Assignment</i>
December	Special emphasis based on agrobacterium gene mediated transfer.
	Test and revision

Botany Hons
Co. Subsidiary

[P-305]

Lesson plan B.Sc. Botany (Hons) (Sub.) 2023- 24

Odd semester (3th semester)

Animal physiology & Functional Histology

Teacher's name: Naveeta Yadav

July-August

Structure and types of mode of digestive system and its glands; Process of digestion, assimilation and various disorders.

September

Structure and functions of respiratory system; Control and coordination of respiration. General organization: Neuron resting membrane potential and its basis; Origin of action potential.

Class test , Assignment

October

Nervous System - Action potential propagation in myelinated and unmyelinated nerve fibers; Synaptic transmission and types of synapses, Neuro-muscular junction; Physiology of hearing and vision.

Histology of different types of muscle; Ultra structure of skeletal muscle; Molecular and chemical basis of muscle contraction; Characteristics of muscle twitch; Motor unit.

Class Test

November

Histology of male and female reproductive systems, Puberty, physiology of male and female reproduction; Methods of contraception (depicted through flow chart); Disorders of reproductive system.

Class Test , Assignment

December

Histology and functions of endocrine glands; Nature of hormones; Mode of action of hormones; Hypothalamus- principal nuclei involved in control of endocrine system, control of anterior pituitary hormones by hypothalamic releasing hormones (neuroendocrine mechanisms).

Class Test

Revision

Lesson plan of Zoology Department

(2023-24) Odd Semester

(Paper 501)

Subject- Genetics and Genomics - I (501)

Class- B.Sc. Zoology (Hons.) 5th Semester

Faculty name: Aakanksha Yadav

Time Period	Topic covered
July	<p>Introduction to Genetics- Mendel's work on transmission of traits, Genetic Variation, Molecular basis of genetic information</p> <p>Test , Assignment</p>
August	<p>Mitosis and meiosis- interrelation between cell structure and genetics function</p> <p>Mitosis, Meiosis (explaining mendel's ratios)</p> <p>Mendelian Genetics and its Extension</p> <p>Principles of Inheritance, Chromosome theory of inheritance, Laws of Probability</p> <p>Pedigree analysis, Incomplete and codominance, Multiple alleles, Lethal alleles, Epistasis, Class test</p> <p>Pleiotropy, Environmental effects on phenotypic expression, sex linked inheritance.</p> <p>Test , Assignment</p>
September	<p>Linkage, Crossing Over and Chromosomal Mapping</p> <p>Linkage and crossing over, Cytological basis of crossing over, Molecular</p>

	<p>mechanism of crossing over</p> <p>Recombination frequency as a measure of linkage intensity, two factor and three factor crosses</p> <p>Interference and coincidence, Somatic cell genetics – an alternative approach to gene mapping</p> <p>Introduction to concept of Epigenetics, doubt class, Class test</p>
October	<p>Chromosomal Mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy</p> <p>Gene mutations: Induced versus Spontaneous mutations, Back versus Suppressor mutations</p> <p>Molecular basis of Mutations in relation to UV light and chemical mutagens, Class test</p> <p>Detection of mutations: CLB method, Attached X method, DNA repair mechanisms.</p> <p>Sex Determination- Chromosomal mechanisms, Environmental factors determining sex determination, Barr bodies, Dosage compensation</p> <p>Test (Assignment)</p>
November	<p>Extrachromosomal Inheritance</p> <p>Chloroplast mutation/Variation in Four o' clock plant and Chlamydomonas</p> <p>Mitochondrial mutations in Neurospora and yeast, Maternal effects</p> <p>Infective heredity- Kappa particles in Paramecium, class test</p> <p>Quantitative Genetics-Quantitative and multifactor inheritance, Transgressive variations, Heterosis.</p> <p>Revision & test</p>

Lesson plan of Zoology Department (2023-2024)

P-502.

Odd semester

Subject: Organic Evolution (P-502)

Class: BSc (H) Zoology 5th semester

Faculty name: Bharti Khurana

July and August

Concept of evolution, Origin of life, Evidence in favour of evolution

September

Theories of evolution viz. Lamarckism,

Weisman's theory of continuity of germplasm, Neo-Lamarckism, Class Test

Darwinism and Modern synthetic theory of evolution

Sources of variability amongst population, mutations, Isolation, Natural selection

October

Hardy-Weinberg principle, Class Test, *Assignment*

Micro and macro evolution, Structural and functional adaptations

Class test, Mimicry and protective colouration

November

Mimicry and protective colouration, Class Test

Speciation and its type

Zoo-Geographical distribution of animal species (Realms), Fossil-Formation, Kinds, Interpretation

Age and significance of fossil

Class Test, *Assignment*

December

Evolution of man,

Test and revision

[P-503]

Lesson plan B.Sc. Zoology (Hons) 2023- 24

Odd semester (5th semester)

Immunology - 1

Teacher's name: SapnaYadav

July and August

Historical perspective of Immunology, Early theories of Immunology.

September

Innate, Adaptive (cell mediated and humoral) - Passive: Artificial and Natural Immunity, Active: Artificial and Natural Immunity.

Class test , *Assignment*

October

Haematopoiesis and role of haematopoietic factors, Cells of the immune system, Organs of the Immune system: Primary and Secondary lymphoid organs, Lymphatic system.

Class Test

November

Antigenicity and immunogenicity, Immunogens, Adjuvants and Haptens, Factors influencing immunogenicity, B and T-cell epitopes.

Class Test , *Assignment*

December

Structure and Functions, Basic structure, deducing antibody structure, classes and function, Antigenic determinants on immunoglobulins, Antigen-antibody interactions, Polyclonal sera, Monoclonal antibodies, Hybridoma technology.

Class Test

Revision

LESSON PLAN
SESSION:2023-24
B.Sc. (Hons) Zoology
SEMESTER – V
ODD SEMESTER
PAPER-504
BIOCHEMISTRY & METABOLISM

Paper 504

TEACHER NAME:Sapna Tanwar

JULY	Carbohydrates: Structures and properties of important mono-, di- and polysaccharides.
AUGUST	Carbohydrate Metabolism Glycolysis, Fermentation, Citric acid cycle, pentose phosphate pathway, Gluconeogenesis, Shuttle systems (Malate aspartate shuttle, Glycerol 3-phosphate shuttle, and Cori cycle), Glycogen metabolism. Test , <i>Assignment</i>
SEPTEMBER	Unit II Lipids Structures, properties and functional significance of fatty acids, triglycerides and steroids. Lipid Metabolism Biosynthesis and β -oxidation of saturated fatty acids, Ketogenesis,
OCTOBER	Unit III Amino acids and Proteins Structure and general properties of amino acids. Protein Metabolism Catabolism of amino acids: Transamination, Deamination and Urea cycle, Fate of glucogenic and ketogenic amino acids with examples of serine and leucine respectively. Test , <i>Assignment</i>
NOVEMBER	Enzymes Introduction, kinetics, mechanism of action, inhibition, allosteric enzymes. Unit IV Intermediary metabolism Inter-relationship of carbohydrates, lipid and protein metabolism.
DECEMBER	Oxidative Phosphorylation

LESSON PLAN
B.Sc. (Hons) Zoology
SEMESTER - V
PAPER-505

Paper 505

COMPUTER AND BIostatISTICS
TEACHER NAME: SAPNA T ANWAR

JULY -AUGUST	Measures of central tendency. Measures of dispersion
SEPTEMBER	skewness, kurtosis. Elementary Probability and basic laws. Discrete and Continuous Random variable Test , <i>Assignment</i>
OCTOBER	Mathematical Expectation, Mean and Variance of Binomial, Poisson and Normal distribution. Sample mean and Sampling variance
NOVEMBER	Hypothesis testing using standard normal variate. Curve Fitting. Correlation and Regression. Emphasis on examples from Biological Sciences. Test , <i>Assignment.</i>
DECEMBER	Revision