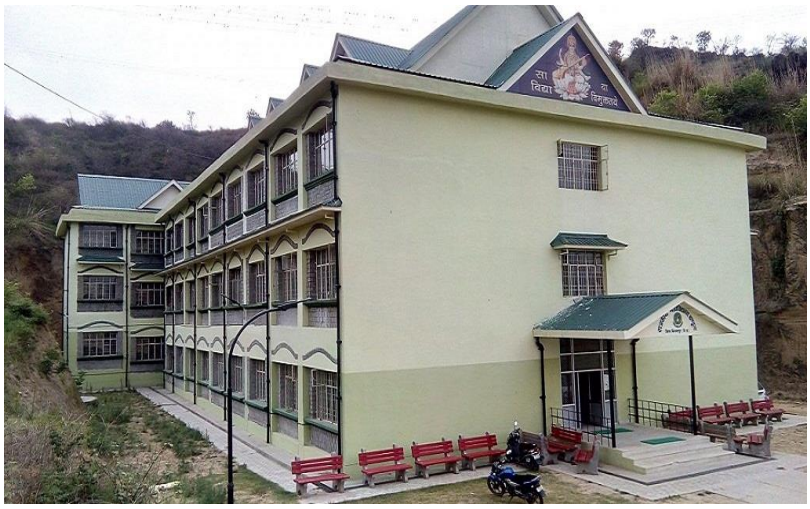
Schedule of Teaching

Department of Zoology



Govt. College Jhandutta Distt. Bilaspur (H.P.)

Prepared by:

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Department of Zoology

Class: B.Sc. First Year
DSC IA
Course: Animal Diversity (ZOOL 101 TH)
Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Animal Diversity and classification	First Week	July
2.	General characters and classification of kingdom Protista	Second Week	
3.	Locomotory organelles and locomotion in Protozoa, General characters of phylum Porifera up to classes	Third Week	
4.	Classification of phylum Porifera, Canal System in Sycon, General characters of phylum Cnidaria up to classes	Fourth Week	
5.	Classification and polymorphism in phylum Cnidaria	First Week	August
6.	General characters and classification of phylum Platyhelminthes up to classes	Second Week	
7.	Life history of *Taenia solium*, General characters of phylum Nemathelminthes	Third Week	
8.	Classification of phylum Nemathelminthes up to classes, Life history of *Ascaris lumbricoides*	Fourth Week	
9.	Parasitic adaptations of *Ascaris*, Characters of Annelida	First Week	September
10.	Classification and metamerism of Annelida	Second Week	
11.	General characters of phylum Arthropoda	Third Week	
12.	Classification of phylum Arthropoda up to classes,	Fourth Week	
13.	Vision in Arthropoda, Metamorphosis in Insects	First Week	October
14.	General characters and classification of phylum Mollusca	Second Week	
15.	Torsion in gastropods, Characters of Echinodermata	Third Week	
16.	Classification and water-vascular system of Echinodermata	Fourth Week	
17.	General features of Protochordata	First Week	November
18.	Phylogeny of Protochordata, General features of Agnatha	Second Week	
19.	Classification of cyclostomes up to classes	Third Week	
20.	General features and classification of pisces up to orders	Fourth Week	
21.	Osmoregulation in fishes, General features of amphibians	First Week	December
22.	Classification of amphibians, Parental care in Amphibia	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	General features and classification of reptiles up to orders, Poisonous and non-poisonous snakes	Second Week	February
26.	Biting mechanism in snakes, General features, classification and flight adaptations of Aves	Third Week	
27.	Classification and origin of mammals	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

DSC IB

Course: Comparative Anatomy and Developmental Biology of Vertebrates (ZOOL 102TH)

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Comparative Anatomy and Developmental Biology of Vertebrates	First Week	July
2.	Derivatives of integument w.r.t. glands and digital tips	Second Week	
3.	Evolution of visceral arches	Third Week	
4.	Jaw suspension in vertebrates, Digestive system introduction	Fourth Week	
5.	Brief account of alimentary canal	First Week	August
6.	Digestive glands, Brief account of gills	Second Week	
7.	Brief account of lungs, air sacs and swim bladder	Third Week	
8.	Evolution and comparative anatomy of heart	Fourth Week	
9.	Evolution of aortic arches	First Week	September
10.	Origin and evolution of kidney, Structure of nephron	Second Week	
11.	Evolution of urinogenital ducts, Parts of brain	Third Week	
12.	Comparative account of brain, Photoreceptor- Eye	Fourth Week	
13.	Structure of mammalian ear, Olfactory organs	First Week	October
14.	Gustatoreceptors, Gametogenesis w.r.t. mammals	Second Week	
15.	Vitellogenesis in birds, External fertilization (amphibians)	Third Week	
16.	Internal fertilization (mammals), Blocks to polyspermy	Fourth Week	
17.	Early development of frog	First Week	November
18.	Early development of humans (structure of mature egg and its membranes)	Second Week	
19.	Patterns of cleavage, Fate map, Gastrulation	Third Week	
20.	Types of morphogenetic movements	Fourth Week	
21.	Implantation of embryo in humans	First Week	December
22.	Formation of human placenta and functions	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Types of placenta on the basis of histology	Second Week	February
26.	Metamorphic events in frog life cycle	Third Week	
27.	Intercellular communication, Cell movements, Cell death	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

Class: B.Sc. Second Year

DSC IC

Course: Physiology and Biochemistry (ZOOL 201 TH)

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Physiology and Biochemistry	First Week	July
2.	Structure of a neuron, Resting membrane potential, Graded potential	Second Week	
3.	Origin of Action potential and its propagation in myelinated and non-myelinated nerve fibres	Third Week	
4.	Ultrastructure of skeletal muscle	Fourth Week	
5.	Molecular and chemical basis of muscle contraction	First Week	August
6.	Physiology of digestion in the alimentary canal	Second Week	
7.	Absorption of carbohydrates, proteins, lipids	Third Week	
8.	Pulmonary ventilation, Respiratory volumes and capacities	Fourth Week	
9.	Transport of Oxygen and carbon dioxide in blood	First Week	September
10.	Structure of nephron, Mechanism of urine formation	Second Week	
11.	Counter-current mechanism, Composition of blood	Third Week	
12.	Hemostasis, Structure of Heart, Origin of the cardiac impulse	Fourth Week	
13.	Conduction of the cardiac impulse, Cardiac cycle	First Week	October
14.	Physiology of male reproduction	Second Week	
15.	Physiology of female reproduction	Third Week	
16.	Structure and function of pituitary and thyroid gland	Fourth Week	
17.	Structure and function of Parathyroid gland and pancreas	First Week	November
18.	Structure and function of adrenal gland, Carbohydrate Metabolism - Glycolysis	Second Week	
19.	Krebs Cycle, Pentose phosphate pathway	Third Week	
20.	Gluconeogenesis, Glycogen metabolism	Fourth Week	
21.	Electron transport chain, Lipid metabolism- β oxidation of palmitic acid	First Week	December
22.	Protein metabolism- Transamination, Deamination	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Urea Cycle, Enzymes introduction and properties	Second Week	February
26.	Mechanism of enzyme action, Enzyme inhibition	Third Week	
27.	Regulation of enzyme activity	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

DSC ID

Course: Genetics and Evolutionary Biology (ZOOL 202 TH)

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Genetics and Evolutionary Biology	First Week	July
2.	Mendel's work on transmission of traits, Genetic Variation	Second Week	
3.	Molecular basis of Genetic Information, Principles of Inheritance	Third Week	
4.	Chromosome theory of inheritance, Incomplete dominance and co-dominance, Multiple alleles, Lethal alleles	Fourth Week	
5.	Epistasis, Pleiotropy, Sex linked inheritance	First Week	August
6.	Extra-chromosomal inheritance, Linkage	Second Week	
7.	Crossing over, Recombination frequency	Third Week	
8.	Interference and coincidence	Fourth Week	
9.	Chromosomal Mutations: Deletion, Duplication	First Week	September
10.	Inversion, Translocation	Second Week	
11.	Aneuploidy, Polyploidy	Third Week	
12.	Gene mutations: Induced versus Spontaneous mutations	Fourth Week	
13.	Chromosomal mechanisms, Dosage compensation	First Week	October
14.	History of Life- Major events	Second Week	
15.	Evolutionary Theory- Lamarckism	Third Week	
16.	Darwinism, Neo-Darwinism	Fourth Week	
17.	Types of fossils, Incompleteness of fossil record	First Week	November
18.	Dating of fossils, Phylogeny of horse	Second Week	
19.	Organic variations, Isolating mechanisms	Third Week	
20.	Natural selection- Industrial melanism	Fourth Week	
21.	Types of natural selection, Artificial selection	First Week	December
22.	Biological species concept (Advantages and Limitations)	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Modes of speciation (Allopatric, Sympatric)	Second Week	February
26.	Macro-evolutionary Principles (Darwin's Finches), Mass extinction	Third Week	
27.	Five major extinctions, Role of extinction in evolution	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

SEC I

Course: Medical Diagnostics (ZOOL 203 TH)

Lectures per week: 2

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Medical diagnostics	First Week	July
2.	Introduction to medical diagnostics	Second Week	
3.	Importance of medical diagnostics	Third Week	
4.	Diagnostics methods used for analysis of blood- Blood composition	Fourth Week	
5.	Preparation of blood smear	First Week	August
6.	Differential leucocyte count using Leishman's stain	Second Week	
7.	Platelet count using Haemocytometer	Third Week	
8.	Erythrocyte sedimentary rate (E.S.R)	Fourth Week	
9.	Packed cell volume	First Week	September
10.	Diagnostic methods used for urine analysis- Physical characteristics	Second Week	
11.	Abnormal constituents of urine	Third Week	
12.	Causes, types, symptoms of Diabetes (Type I and Type II)	Fourth Week	
13.	Complications, diagnosis and prevention of Diabetes (Type I and Type II)	First Week	October
14.	Causes, types, symptoms of Hypertension (Primary and secondary)	Second Week	
15.	Complications, diagnosis and prevention of Hypertension (Primary and secondary)	Third Week	
16.	Testing of blood glucose using Glucometer/Kit	Fourth Week	
17.	Causes, types, symptoms, diagnosis of Tuberculosis	First Week	November
18.	Prevention of Tuberculosis, Causes, types, symptoms of Hepatitis	Second Week	
19.	Diagnosis and prevention of Hepatitis	Third Week	
20.	Types of tumours (Benign/Malignant)	Fourth Week	
21.	Detection of tumours and metastasis	First Week	December
22.	Medical imaging: X-Ray of Bone fracture	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	PET, MRI	Second Week	February
26.	CT Scan	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Revision	Third Week	
31.	Revision	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

SEC-II

Course: Apiculture (ZOOL 204 TH)

Lectures per week: 2

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Apiculture	First Week	July
2.	History of Honey bees	Second Week	
3.	Classification of Honey bees	Third Week	
4.	Biology of Honey Bees- Morphology of Worker bee	Fourth Week	
5.	Life cycle of Honey bee	First Week	August
6.	Social organization of bee colony	Second Week	
7.	Rearing of Bees- Artificial Bee rearing (Apiary)	Third Week	
8.	Beehives – Newton and Langstroth beehive	Fourth Week	
9.	Bee pasturage	First Week	September
10.	Selection of Bee species for apiculture	Second Week	
11.	Bee keeping equipments	Third Week	
12.	Methods of extraction of Honey (Indigenous and Modern)	Fourth Week	
13.	Bee diseases	First Week	October
14.	Bee enemies	Second Week	
15.	Control and preventive measures of Bee diseases	Third Week	
16.	Control and preventive measures of Bee enemies	Fourth Week	
17.	Bee economy- Products of Apiculture industry- Honey and its uses	First Week	November
18.	Bees wax and its uses	Second Week	
19.	Propolis and its uses	Third Week	
20.	Royal jelly and its uses	Fourth Week	
21.	Bee pollen and its uses	First Week	December
22.	Entrepreneurship in Apiculture- Recent efforts	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Bee Keeping Industry- Introduction	Second Week	February
26.	Modern methods in employing artificial beehives for cross pollination in horticultural gardens	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Revision	Third Week	
31.	Revision	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

Class: B.Sc. Third Year

DSE IA

Course: Applied Zoology {ZOOL 301 (A) TH}

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Applied Zoology	First Week	July
2.	Introduction to Host-parasite Relationship, Host, Definitive host, Intermediate host	Second Week	
3.	Parasitism, Symbiosis, Commensalism, Reservoir, Zoonosis	Third Week	
4.	Transmission, Prevention and control of Tuberculosis	Fourth Week	
5.	Transmission, Prevention and control of Typhoid	First Week	August
6.	Brief account of *Rickettsia prowaziiekii*	Second Week	
7.	Brief account of *Borrelia recurrentis*	Third Week	
8.	Brief account of *Treponema pallidum*	Fourth Week	
9.	Life history and pathogenicity of *Entamoeba histolytica*	First Week	September
10.	Life history and pathogenicity of *Plasmodium vivax*	Second Week	
11.	Life history and pathogenicity of *Trypanosoma gambiense*	Third Week	
12.	Life history and pathogenicity of *Ancylostoma duodenale*	Fourth Week	
13.	Life history and pathogenicity of *Wuchereria bancrofti*	First Week	October
14.	Biology, control and damage caused by *Helicoverpa armigera*, *Pyrilla perpusilla*	Second Week	
15.	Biology, control and damage caused by *Papilio demoleus*, *Callosobruchus chinensis*	Third Week	
16.	Biology, control and damage caused by *Sitophilus oryzae* and *Tribolium castaneum*	Fourth Week	
17.	Medical importance and control of *Pediculus humanus corporis*, *Anopheles*	First Week	November
18.	Medical importance and control of *Culex*, *Aedes*, *Xenopsylla cheopis*	Second Week	
19.	Preservation and artificial insemination in cattle	Third Week	
20.	Induction of puberty and synchronization of estrus in cattle	Fourth Week	
21.	Principles of poultry breeding	First Week	December
22.	Management of breeding stock, Processing of eggs	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Genetic improvements in aquaculture industry	Second Week	February
26.	Induced breeding and transportation of fish seed	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

DSE IB

Course: Insect, Vectors and Diseases {ZOOL 302(A) TH}

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Insect, vectors and diseases	First Week	July
2.	Introduction to insects- General features of insects	Second Week	
3.	Morphological features, Head -Eyes	Third Week	
4.	Types of antennae, Mouth parts w.r.t. feeding habits	Fourth Week	
5.	Classification of insects up to orders	First Week	August
6.	Detailed features of order Diptera	Second Week	
7.	Detailed features of order Siphonaptera	Third Week	
8.	Detailed features of order Siphunculata	Fourth Week	
9.	Detailed features of order Hemiptera	First Week	September
10.	Dipterans as important insect vectors – Mosquitoes	Second Week	
11.	Sand fly, Houseflies	Third Week	
12.	Study of mosquito-borne diseases – Malaria, Dengue	Fourth Week	
13.	Chikungunya, Viral encephalitis, Filariasis	First Week	October
14.	Control of mosquitoes study of sand fly-borne diseases – Visceral Leishmaniasis,	Second Week	
15.	Cutaneous Leishmaniasis, Phlebotomus fever	Third Week	
16.	Control of Sand fly, Study of house fly as important mechanical vector	Fourth Week	
17.	Myiasis, Control of house fly	First Week	November
18.	Fleas as important insect vectors, Host-specificity	Second Week	
19.	Study of Flea-borne diseases – Plague, Typhus fever	Third Week	
20.	Control of fleas, Human louse (Head, Body and Pubic louse) as important insect vectors	Fourth Week	
21.	Study of louse-borne diseases –Typhus fever, Relapsing fever	First Week	December
22.	Trench fever, Vagabond's disease, Phthiriasis	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Control of human louse, Bugs as insect vectors	Second Week	February
26.	Blood-sucking bugs; Chagas disease	Third Week	
27.	Bed bugs as mechanical vectors, Control and prevention measures	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

SEC - III

Course: Sericulture (ZOOL 303 TH)

Lectures per week: 2

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Sericulture	First Week	July
2.	Sericulture introduction, History and present status	Second Week	
3.	Silk route, Types of silkworms	Third Week	
4.	Distribution of silkworms and races, Exotic and indigenous races	Fourth Week	
5.	Mulberry and non-mulberry sericulture	First Week	August
6.	Life cycle of *Bombyx mori*	Second Week	
7.	Structure of silk gland and secretion of silk	Third Week	
8.	Selection of mulberry variety	Fourth Week	
9.	Establishment of mulberry garden	First Week	September
10.	Rearing house and rearing appliances	Second Week	
11.	Disinfectants: Formalin, bleaching powder, RKO	Third Week	
12.	Silkworm rearing technology: Early age	Fourth Week	
13.	Late age rearing	First Week	October
14.	Types of mountages	Second Week	
15.	Spinning and Harvesting of cocoon	Third Week	
16.	Storage of cocoon, Pests of silkworm: Uzi fly	Fourth Week	
17.	Dermestid beetles and Vertebrates	First Week	November
18.	Pathogenesis- Protozoan and viral diseases of silkworms	Second Week	
19.	Fungal and bacterial diseases of silkworms	Third Week	
20.	Control and prevention of pests and diseases	Fourth Week	
21.	Prospectus of Sericulture in India	First Week	December
22.	Sericulture industry in different states, Employment	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Potential in mulberry and non-mulberry sericulture	Second Week	February
26.	Visit to various sericulture centers	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Revision	Third Week	
31.	Revision	Fourth Week	

There will be class test at the end of each unit. Assignments and quiz will be taken during the session.

SEC – IV

Course: Aquarium Fish Keeping {ZOOL 304 (A) TH}

Lectures per week: 2

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Aquarium fish keeping	First Week	July
2.	Introduction to Pisces group	Second Week	
3.	Classification of fishes	Third Week	
4.	Introduction to aquarium fish keeping	Fourth Week	
5.	The potential scope of aquarium fishes	First Week	August
6.	Aquarium fish industry as a cottage industry	Second Week	
7.	Fresh water and marine water aquarium fishes	Third Week	
8.	Exotic and endemic species of aquarium fishes	Fourth Week	
9.	Biology of Aquarium Fishes	First Week	September
10.	Common characters and sexual dimorphism of Guppy fish	Second Week	
11.	Common characters and sexual dimorphism of Sword tail	Third Week	
12.	Common characters and sexual dimorphism of Molly	Fourth Week	
13.	Common characters and sexual dimorphism of Gold fish	First Week	October
14.	Common characters and sexual dimorphism of Angel fish	Second Week	
15.	Common characters and sexual dimorphism of Blue morph	Third Week	
16.	Common characters and sexual dimorphism of Anemone fish	Fourth Week	
17.	Common characters and sexual dimorphism of Butterfly fish	First Week	November
18.	Use of live fish feed organisms	Second Week	
19.	Composition of formulated fish feeds	Third Week	
20.	Preparation of formulated fish feed	Fourth Week	
21.	Live fish transport - Fish handling	First Week	December
22.	Packing and forwarding techniques	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	General Aquarium maintenance	Second Week	February
26.	Budget for setting up an aquarium fish farm as a cottage Industry	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Revision	Third Week	
31.	Revision	Fourth Week	

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