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LEARNING MODULE CC1-1-TH Sem. – 1

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Expected Outcome
Unit 1: Basics of Animal Classification	To give a detailed account of Classification, Systematics and Taxonomy; Taxonomic Hierarchy, Taxonomic types Codes of Zoological Nomenclature; Principle of priority; Synonymy and Homonymy; Concept of classification – three kingdom concept of Carl Woese, 1977 and five kingdom concept of Whittaker, 1969	4	Class room lecture, Chalk and talk	The students will get overall idea and comprehensive overview about Classification, Systematics and Taxonomy; Taxonomic Hierarchy, Taxonomic types Codes of Zoological Nomenclature; Principle of priority; Synonymy and Homonymy; Concept of classification – three kingdom concept of Carl Woese, 1977 and five kingdom concept of Whittaker, 1969
Unit 3: Porifera	To give a detailed account of General characteristics and Classification up to classes (Ruppert and Barnes, 1994) Canal system and spicules in sponges	6	Class room lecture through multimedia presentation.	The students will get overall idea and comprehensive overview about To give a detailed account of General characteristics and Classification up to classes (Ruppert and Barnes, 1994) Canal system and spicules in sponges

Unit 4: Cnidaria	To give a detailed account of General characteristics and Classification up to classes (Ruppert and Barnes, 1994, 6th Ed.), Metagenesis in <i>Obelia</i> ; Polymorphism in Cnidaria; Corals and coral reef diversity, Role of Symbiotic algae in reef formation. Conservation of coral and coral reefs.	10	Class room lecture through multimedia presentation and chalk and talk method	The students will get overall idea and comprehensive overview about General characteristics and Classification up to classes (Ruppert and Barnes, 1994, 6th Ed.), Metagenesis in <i>Obelia</i> ; Polymorphism in Cnidaria; Corals and coral reef diversity, Role of Symbiotic algae in reef formation. Conservation of coral and coral reefs.
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LEARNING MODULE **CC-1-1-P Sem-1**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Study of whole mount of <i>Euglena</i> , <i>Amoeba</i> and <i>Paramoecium</i>	To give a detailed account of Preparation of temporary stained whole mount of <i>Euglena</i> , <i>Amoeba</i> and <i>Paramoecium</i> .	12	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about Preparation of temporary stained whole mount of <i>Euglena</i> , <i>Amoeba</i> and <i>Paramoecium</i>
Unit 2: Identification with reason & Systematic position of <i>Amoeba</i> , <i>Euglena</i> , <i>Entamoeba</i> , <i>Paramecium</i> , <i>Plasmodium</i> , <i>Balantidium</i> ,	To make students identify <i>Amoeba</i> , <i>Euglena</i> , <i>Entamoeba</i> , <i>Paramecium</i> , <i>Plasmodium</i> , <i>Balantidium</i> , <i>Vorticella</i> (from the prepared slides) and to make	15	Practical demonstration and multimedia presentation	The students will get overall idea and comprehensive overview about <i>Amoeba</i> , <i>Euglena</i> , <i>Entamoeba</i> , <i>Paramecium</i> , <i>Plasmodium</i> , <i>Balantidium</i> ,

<i>Vorticella</i> (from the prepared slides)	them understand the systematic positions and the biological significance of the above mentioned specimens			<i>Vorticella</i> and understand the systematic positions and the biological significance of the above mentioned specimens
Unit 3: Identification with reason & Systematic position of <i>Sycon</i> , <i>Poterion</i> (Neptune's Cup), <i>Obelia</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Gorgonia</i> , <i>Metridium</i> , <i>Pennatula</i> , <i>Madrepora</i> , <i>Fasciola hepatica</i> , <i>Taeniasolium</i> and <i>Ascaris lumbricoides</i> .	To make students identify <i>Sycon</i> , <i>Poterion</i> (Neptune's Cup), <i>Obelia</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Gorgonia</i> , <i>Metridium</i> , <i>Pennatula</i> , <i>Madrepora</i> , <i>Fasciola hepatica</i> , <i>Taeniasolium</i> and <i>Ascaris lumbricoides</i> . and to make them understand the systematic positions and the biological significance of the above mentioned specimens	15	Practical demonstration and multimedia presentation	The students will get overall idea and comprehensive overview about <i>Sycon</i> , <i>Poterion</i> (Neptune's Cup), <i>Obelia</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Gorgonia</i> , <i>Metridium</i> , <i>Pennatula</i> , <i>Madrepora</i> , <i>Fasciola hepatica</i> , <i>Taeniasolium</i> and <i>Ascaris lumbricoides</i> and understand the systematic positions and the biological significance of the above mentioned specimens

LEARNING MODULE **CC2-3-TH Sem. – 2**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Expected Outcome
Unit 1: Introduction	To give a detailed account of Evolution of coelom	2	Class room lecture through multimedia presentation.	The students will get overall idea and comprehensive overview about the concept of Evolution of coelom.
Unit 2: Annelida	To give a detailed account of	10	Class room lecture through	The students will get overall idea

	General characteristics and Classification up to classes (Ruppert and Barnes, 1994) Excretion in Annelida through nephridia; Metamerism in Annelida.		multimedia presentation.	and comprehensive overview about General characteristics and Classification up to classes (Ruppert and Barnes, 1994); Excretion in Annelida through nephridia; Metamerism in Annelida.
Unit 7: Hemichordata	To give a detailed account of General characteristics of phylum Hemichordata and relationship with non-chordates and chordates	2	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about General characteristics of phylum Hemichordata and relationship with non-chordates and chordates

LEARNING MODULE **CC-2-3-P Sem. – 2**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Study of following Non-Chordate specimens	To make students identify following specimens: a. Annelids - <i>Aphrodite</i> , <i>Nereis</i> , <i>Chaetopterus</i> , Earthworm, <i>Hirudinaria</i> b. Arthropods - <i>Limulus</i> , <i>Palaemon</i> , <i>Balanus</i> , <i>Eupagurus</i> , <i>Scolopendra</i> , <i>Peripatus</i> , Silkworm – life history stages,	15	Practical demonstration and experimentations.	The students will get overall idea and comprehensive overview following specimens: a. Annelids - <i>Aphrodite</i> , <i>Nereis</i> , <i>Chaetopterus</i> , Earthworm, <i>Hirudinaria</i> b. Arthropods - <i>Limulus</i> , <i>Palaemon</i> , <i>Balanus</i> , <i>Eupagurus</i> , <i>Scolopendra</i> ,

	<p>Termite – members of a colony and Honey bee – members of the colony</p> <p>c. Molluscs - <i>Dentalium, Patella, Chiton, Pila, Achatina, Pinctada, Sepia, Octopus, Nautilus</i></p> <p>d. Echinoderms - <i>Asterias, Ophiura, Clypeaster, Echinus, Cucumaria</i> and <i>Antedon</i></p> <p>and to make them understand the systematic positions and the biological significance of the above mentioned specimens</p>			<p><i>Peripatus</i>, Silkworm – life history stages,</p> <p>Termite – members of a colony and Honey bee – members of the colony</p> <p>c. Molluscs - <i>Dentalium, Patella, Chiton, Pila, Achatina, Pinctada, Sepia, Octopus, Nautilus</i></p> <p>d. Echinoderms - <i>Asterias, Ophiura, Clypeaster, Echinus, Cucumaria</i> and <i>Antedon</i></p> <p>and understand the systematic positions and the biological significance of the above mentioned specimens</p>
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LEARNING MODULE **CC3-5-TH Sem. – 3**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Expected Outcome
Unit 4: Pisces	<p>To give a detailed account of General characteristics and classification up to living sub classes (Young, 1981);</p> <p>Accessory respiratory organ, Migration in fishes; Parental care in fishes; Swim bladder in fishes.</p>	7	Class room lecture through chalk and talk	<p>The students will get overall idea and comprehensive overview about General characteristics and classification up to living sub classes (Young, 1981);</p> <p>Accessory respiratory organ, Migration in fishes; Parental care in fishes;</p>

				Swim bladder in fishes.
Unit 5: Amphibia	To give a detailed account of General characteristics and classification up to living Orders (Young, 1981); Metamorphosis, Paedomorphosis, Parental care in Amphibia	7	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about General characteristics and classification up to living Orders (Young, 1981); Metamorphosis, Paedomorphosis, Parental care in Amphibia
Unit 6: Reptilia	To give a detailed account of General characteristics and classification up to living Orders (Young, 1981); Poison apparatus and Biting mechanism in Snake. Poisonous & Non-Poisonous snake.	8	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about General characteristics and classification up to living Orders (Young, 1981); Poison apparatus and Biting mechanism in Snake. Poisonous & Non-Poisonous snake.
Unit 7: Aves	To give a detailed account of General characteristics and classification up to living Sub-Classes (Young, 1981); Exoskeleton and migration in Birds; Principles and aerodynamics of flight	8	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about General characteristics and classification up to living Sub-Classes (Young, 1981); Exoskeleton and migration in Birds; Principles and aerodynamics of flight

Unit 8: Mammals	To give a detailed account of General characters and classification up to living sub classes (Young, 1981); Exoskeleton derivatives of mammals; Adaptive radiation in mammals with reference to locomotory appendages; Echolocation in Micro chiropterans	9	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about General characters and classification up to living sub classes (Young, 1981); Exoskeleton derivatives of mammals; Adaptive radiation in mammals with reference to locomotory appendages; Echolocation in Micro chiropterans
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LEARNING MODULE CC-3-5-P Sem. – 3

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Identification with Reasons	To make students identify following specimens: a) Protochordata: <i>Balanoglossus</i> , <i>Branchiostoma</i> b) Agnatha: <i>Petromyzon</i> c) Fishes: <i>Scoliodon</i> , <i>Sphyrna</i> , <i>Pristis</i> , <i>Torpedo</i> , <i>Mystus</i> , <i>Heteropneustes</i> , <i>Labeorohita</i> , <i>Exocoetus</i> , <i>Hippocampus</i> , <i>Anabas</i> , Flat fish d) Amphibia: <i>Necturus</i> , <i>Bufo</i> (<i>Duttaphrynus</i>) <i>melanostictus</i> ,	30	Practical demonstration and explanation through multimedia presentation	The students will get overall idea and comprehensive overview about following specimens:a) Protochordata: <i>Balanoglossus</i> , <i>Branchiostoma</i> b) Agnatha: <i>Petromyzon</i> c) Fishes: <i>Scoliodon</i> , <i>Sphyrna</i> , <i>Pristis</i> , <i>Torpedo</i> , <i>Mystus</i> , <i>Heteropneustes</i> , <i>Labeorohita</i> , <i>Exocoetus</i> , <i>Hippocampus</i> , <i>Anabas</i> , Flat fish d) Amphibia:

	<p><i>Rana</i> (<i>Hoplobatrachus</i>) <i>tigerinus</i>, <i>Hyla</i>, <i>Tylototriton</i>, Axolotl larva e) Reptilia: Chelone, Trionyx, Hemidactylus, Varanus, <i>Calotes</i>, <i>Chamaeleon</i>, <i>Draco</i>, <i>Vipera</i>, <i>Naja</i>, <i>Hydrophis</i>, f) Mammalia: Bat (Insectivorous and Frugivorous), <i>Funambulus</i>(Indian Palm squirrel)and to make them understand the systematic positions and the biological significance of the above mentioned specimens</p>			<p><i>Necturus</i>, <i>Bufo</i>(<i>Duttaphrynus</i>) <i>melanostictus</i>, <i>Rana</i> (<i>Hoplobatrachus</i>) <i>tigerinus</i>, <i>Hyla</i>, <i>Tylototriton</i>, Axolotl larva e) Reptilia: Chelone, Trionyx, Hemidactylus, Varanus, <i>Calotes</i>, <i>Chamaeleon</i>, <i>Draco</i>, <i>Vipera</i>, <i>Naja</i>, <i>Hydrophis</i>, f) Mammalia: Bat (Insectivorous and Frugivorous), <i>Funambulus</i>(Indian Palm squirrel) and understand the systematic positions and the biological significance of the above mentioned specimens</p>
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LEARNING MODULE **CC4-9-TH Sem. – 4**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Physiology of Digestion	To give a detailed account of Structural organisation and function of gastro-intestinal tract; Mechanical and chemical digestion of food, absorption of Carbohydrates, Lipids and Proteins in Human	10	Class room lecture through chalk and talk/multimedia presentation and peer-group learning	The students will get overall idea and comprehensive overview about Structural organisation and function of gastro-intestinal tract; Mechanical and chemical digestion of food, absorption of Carbohydrates,

				Lipids and Proteins in Human
Unit 2: Physiology of Respiration	To give a detailed account of Mechanism of Respiration, Respiratory volumes and capacities, transport of Oxygen and Carbon dioxide in blood, Dissociation curves and the factors influencing it, respiratory pigments; Carbon monoxide poisoning	10	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about Mechanism of Respiration, Respiratory volumes and capacities, transport of Oxygen and Carbon dioxide in blood, Dissociation curves and the factors influencing it, respiratory pigments; Carbon monoxide poisoning

LEARNING MODULE **CC4-9-P Sem. – 4**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Determination of ABO Blood group	To give a detailed account of Determination of ABO Blood group	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about Determination of ABO Blood group and will learn to determine their own blood group
Unit 2: Estimation of haemoglobin using Sahli's haemoglobin meter	To give a detailed account of Estimation of haemoglobin using Sahli's haemoglobin meter	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about Estimation of haemoglobin using Sahli's haemoglobin

				meter and will learn to determine their Hb %
Unit 3: Identification of blood cells from human blood	To give a detailed account of Identification of blood cells from human blood	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about Identification of blood cells from human blood
Unit 4: Preparation of haemin crystals and haemochromogen crystals	To give a detailed account of Preparation of haemin crystals and haemochromogen crystals	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview Preparation of haemin crystals and haemochromogen crystals
Unit 6: Demonstration of blood pressure by digital meter	To give a detailed account of Demonstration of blood pressure by digital meter	10	Practical demonstration, experimentation and hands-on training	The students will get overall idea and comprehensive overview about Demonstration of blood pressure by digital meter and will learn to measure the blood pressure of their peer group

LEARNING MODULE **DSE(A)-5-1-TH Sem. – 5**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 4: Parasitic Nematodes	To give a detailed account of Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment of	12	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about Study of Morphology, Life Cycle, Prevalence,

	<i>Ascaris-lumbricoides</i> , <i>Ancylostoma-duodenale</i> , <i>Wuchereriabancrofti</i> , Nematode plant interaction			Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment of <i>Ascaris-lumbricoides</i> , <i>Ancylostoma-duodenale</i> , <i>Wuchereriabancrofti</i> , Nematode plant interaction
Unit 6: Parasite Vertebrates	To give a detailed account of Cookicutter Shark, Hood Mocking bird, Vampire bats their parasitic behaviour and effect on host.	2	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about Cookicutter Shark, Hood Mocking bird, Vampire bats their parasitic behaviour and effect on host.

LEARNING MODULE **DSE(B)-5-1-TH Sem. – 5**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 4: Peripheral Endocrine Glands	To give a detailed account of Structure, Hormones and Functions of Thyroid gland, Parathyroid, Adrenal, Pancreas, Ovary and Testis. Disorders of endocrine glands (<i>Diabetes mellitus</i> type I & Type II; Graves' Disease).	12	Class room lecture through chalk and talk and multimedia presentation	The students will get overall idea and comprehensive overview about Structure, Hormones and Functions of Thyroid gland, Parathyroid, Adrenal, Pancreas, Ovary and Testis. Disorders of endocrine glands (<i>Diabetes mellitus</i> type I & Type II;

				Graves' Disease).
Unit 5: Non Mammalian Vertebrate Hormone	To give a detailed account of Functions of Prolactin in Fishes, Amphibia & Birds and Function of Melanotropin in Teleost fishes, Amphibians and Reptiles.	8	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about Functions of Prolactin in Fishes, Amphibia & Birds Function of Melanotropin in Teleost fishes, Amphibians and Reptiles.

LEARNING MODULE **DSE(B)-5-1-P Sem. – 5**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Dissection and display of Endocrine glands in laboratory bred rat.	To give a detailed account of Dissection and display of Endocrine glands in laboratory bred rat.	15	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about Dissection and display of Endocrine glands in laboratory bred rat.
Unit 2: Study of the permanent slides of all the endocrine glands	To give a detailed account of Study of the permanent slides of all the endocrine glands	15	Practical demonstration	The students will get overall idea and comprehensive overview about Study of the permanent slides of all the endocrine glands and will learn to identify various endocrine tissues with proper reasons

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Patterns of Behaviour	To give a detailed account of Stereotyped Behaviours (Orientation, Reflex); Individual Behavioural patterns; Instinct vs. Learned Behaviour; FAP, Associative learning, classical and operant conditioning, Habituation, Imprinting	10	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about Stereotyped Behaviours (Orientation, Reflex); Individual Behavioural patterns; Instinct vs. Learned Behaviour; FAP, Associative learning, classical and operant conditioning, Habituation, Imprinting
Unit 2: Social and Sexual Behaviour	To give a detailed account of Social organisation in termites; Communication (dance & pheromones in Bees) Social behaviour: Altruism (Hamilton's rule and concept of haplodiploidy), Cooperation and Selfishness Sexual Behaviour: Sexual dimorphism, Mate choice in peacock, Intra-sexual selection (male rivalry in red deer) Kinship theory: Relatedness & inclusive fitness;	20	Class room lecture through chalk and talk and peer-group learning	The students will get overall idea and comprehensive overview about Social organisation in termites; Communication (dance & pheromones in Bees) Social behaviour: Altruism (Hamilton's rule and concept of haplodiploidy), Cooperation and Selfishness Sexual Behaviour:

	parental care in fishes (Nest Building & coast benefit), conflict within families: parent offspring conflict and sibling rivalry			Sexual dimorphism, Mate choice in peacock, Intra-sexual selection (male rivalry in red deer) Kinship theory: Relatedness & inclusive fitness; parental care in fishes (Nest Building & coast benefit), conflict within families: parent offspring conflict and sibling rivalry
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LEARNING MODULE **DSE(B)-6-3-P Sem. – 6**

Subjects: Zoology Honours

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: To study nests and nesting habits of the birds and social insects.	To give a detailed account of various types of nests of birds and social insects	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about various types of nests of birds and social insects
Unit 2: To study the behavioural responses of wood lice to dry and humid conditions	To give a detailed account of the behavioural responses of wood lice to dry and humid conditions	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about the behavioural responses of wood lice to dry and humid conditions
Unit 3: To study geotaxis behaviour in earthworm.	To give a detailed account of geotaxis behaviour in earthworm.	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about geotaxis behaviour

				in earthworm.
Unit 4: To study the phototaxis behaviour in insect larvae.	To give a detailed account of the phototaxis behaviour in insect larvae.	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about the phototaxis behaviour in insect larvae.
Unit 6: Study of circadian functions in humans (daily eating, sleep and temperature patterns).	To give a detailed account of circadian functions in humans (daily eating, sleep and temperature patterns).	10	Practical experimentation, data recording and project assigning.	The students will get overall idea and comprehensive overview about circadian functions in humans (daily eating, sleep and temperature patterns).

LEARNING MODULE: **CC3-3-TH Sem. – 3**

Subjects: Zoology General

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Nerve and muscle	To give a detailed account of Structure of a neuron, resting membrane potential, Origin of Action potential and its propagation in myelinated and non-myelinated nerve fibres, Ultra-structure of skeletal muscle, Molecular and chemical basis of muscle contraction	8	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about Structure of a neuron, resting membrane potential, Origin of Action potential and its propagation in myelinated and non-myelinated nerve fibres, Ultra-structure of skeletal muscle, Molecular and chemical basis of muscle contraction

Unit 2: Digestion	To give a detailed account of Physiology of digestion in the alimentary canal; Absorption of carbohydrates, proteins, lipids	6	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about Physiology of digestion in the alimentary canal; Absorption of carbohydrates, proteins, lipids
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LEARNING MODULE: **CC3-3-P Sem. – 3**

Subjects: Zoology General

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 1: Study of permanent histological sections of mammalian pituitary, thyroid, pancreas, adrenal gland.	To give a detailed account of Study of permanent histological sections of mammalian pituitary, thyroid, pancreas, adrenal gland.	10	Practical demonstration	The students will get overall idea and comprehensive overview about Study of permanent histological sections of mammalian pituitary, thyroid, pancreas, adrenal gland.
Unit 2: Study of permanent histological sections of mammalian duodenum, liver, lung, kidney.	To give a detailed account of Study of permanent histological sections of mammalian duodenum, liver, lung, kidney.	10	Practical demonstration	The students will get overall idea and comprehensive overview about Study of permanent histological sections of mammalian duodenum, liver, lung, and kidney.
Unit 3: Qualitative test for carbohydrate samples.	To give a detailed account of various types of Qualitative test for carbohydrate	10	Practical demonstration and experimentation	The students will get overall idea and comprehensive overview about

	samples.			various types of Qualitative test for carbohydrate samples.
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LEARNING MODULE: **CC4-4-TH Sem. – 4**

Subjects: Zoology General

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 5: Origin of Life	To give a detailed account of Chemical Origin of life	2	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about Chemical Origin of life
Unit 6: Evolutionary Theories	To give a detailed account of Lamarckism, Darwinism, Neo-Darwinism.	6	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about Lamarckism, Darwinism, Neo-Darwinism.
Unit 7: Process of Evolutionary changes	To give a detailed account of Isolating mechanism, Natural Selection.	4	Class room lecture through chalk and talk	The students will get overall idea and comprehensive overview about Isolating mechanism, Natural Selection.
Unit 8: Speciation	To give a detailed account of Sympatric, Allopatric, Parapatric speciation	4	Class room lecture through chalk and talk and multimedia presentation	The students will get overall idea and comprehensive overview about Sympatric, Allopatric, Parapatric speciation

Topic	Objectives	Classes required	Strategy and Methodology	Outcome
Unit 2: Identification of Human Aneuploidy using photo graph of karyotype.	To give a detailed account of Identification of Human Aneuploidy using photo graph of karyotype.	6	Practical demonstration	The students will get overall idea and comprehensive overview about Identification of Human Aneuploidy using photo graph of karyotype.
Unit 3: Phylogeny of horse with diagram of limb and skull.	To give a detailed account of Phylogeny of horse	6	Practical demonstration	The students will get overall idea and comprehensive overview about Phylogeny of horse
Unit 4: Study and identification of Darwin Finches from photographs.	To give a detailed account of Study and identification of Darwin Finches.	6	Practical demonstration	The students will get overall idea and comprehensive overview about Study and identification of Darwin Finches
Unit 5: Visit to natural history museum and submission of report.	To give a detailed account of Natural history museum	6	Field trip, on-field study and detailed report submission	The students will get overall idea and comprehensive overview about Natural history museum