Name of the Teacher: Ranita Bhattacharya Dept. of Zoology

Subjects: Zoology Honours

LEARNING MODULE CC1-1-TH Sem. - 1

Topic	Objectives	Classes required	Strategy and	Expected
			Methodology	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	6	Class room lecture	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 The students will
Office 3. Formera	To give a detailed account of General characteristics and Classification up to classes (Ruppert and Barnes, 1994) Canal system and spicules in sponges		through multimedia presentation.	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	10	Class room lecture	The students will
	account ofGeneral		through	get overall idea
	characteristics and		multimedia	and
	Classification up to		presentation and	comprehensive
	classes (Ruppert		chalk and talk	overview
	and Barnes, 1994,		method	aboutGeneral
	6th Ed.),			characteristics and
	Metagenesis in			Classification up to
	Obelia;			classes (Ruppert
	Polymorphism in			and Barnes, 1994,
	Cnidaria; Corals			6th Ed.),
	and coral reef			Metagenesis in
	diversity, Role of			Obelia;
	Symbiotic algae in			Polymorphism in
	reef formation.			Cnidaria; Corals
	Conservation of			and coral reef
	coral and coral			diversity, Role of
	reefs.			Symbiotic algae in
				reef formation.
				Conservation of
				coral and coral
				reefs.

LEARNING MODULE CC-1-1-P Sem-1

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

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

LEARNING MODULE CC2-3-TH Sem. – 2

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

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

LEARNING MODULE CC-2-3-P Sem. – 2

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

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

LEARNING MODULE CC3-5-TH Sem. - 3

Topic	Objectives	Classes required	Strategy and Methodology	Expected Outcome
Unit 4: Pisces	To give a detailed account of General characteristics and classification up to living sub classes (Young, 1981); Accessory respiratory organ, Migration in fishes; Parental care in fishes; Swim bladder in fishes.	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 sub classes (Young, 1981); Accessory respiratory organ, Migration in fishes; Parental care in fishes;

				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	9	Class room lecture	The students will
	account of		through chalk and	get overall idea
	General characters		talk and peer-	and
	and classification		group learning	comprehensive
	up to living sub			overview about
	classes (Young,			General characters
	1981);			and classification
	Exoskeleton			up to living sub
	derivatives of			classes (Young,
	mammals;			1981);
	Adaptive radiation			Exoskeleton
	in mammals with			derivatives of
	reference to			mammals;
	locomotory			Adaptive radiation
	appendages;			in mammals with
	Echolocation in			reference to
	Micro			locomotory
	chiropterans			appendages;
				Echolocation in
				Micro
				chiropterans

LEARNING MODULE CC-3-5-P Sem. – 3

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

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

LEARNING MODULE **CC4-9-TH Sem. – 4**

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

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

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	meter and will learn to determine their Hb % The students will get overall idea and comprehensive overview about Identification of
Linit 4.	To give a detailed	10	Dractical	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

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,

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

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

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

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

Subjects: Zoology Honours

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

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

Objectives	Classes required	Strategy and	Outcome
	-	Methodology	
To give a detailed	10	Class room lecture	The students will
account of		through chalk and	get overall idea
Stereotyped		talk and peer-	and
Behaviours		group learning	comprehensive
(Orientation, Reflex);			overview about
			Stereotyped
			Behaviours
· ·			(Orientation,
			Reflex);
			Individual
~			Behavioural
· ·			patterns;
_			Instinct vs.
•			Learned
Imprinting			Behaviour; FAP,
			Associative
			learning,
			classical and
			operant
			conditioning,
			Habituation,
			Imprinting
•	20		The students will
			get overall idea
~		· ·	and
-		group learning	comprehensive
			overview about
'			Social
· ·			organisation in
			termites;
			Communication (dance &
· ·			,
			pheromones in Bees)
			Social
			behaviour:
			Altruism
•			(Hamilton's rule
			and concept of
T			haplodiploidy),
· ·			Cooperation and
			Selfishness
			Sexual
			Behaviour:
	To give a detailed account of Stereotyped Behaviours	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 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 &	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 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 &

parental care in		Sexual
fishes (Nest Building		dimorphism,
& coast		Mate choice in
benefit), conflict		peacock, Intra-
within families:		sexual selection
parent offspring		(male
conflict and sibling		rivalry in red
rivalry		deer)
		Kinship theory:
		Relatedness &
		inclusive fitness;
		parental care in
		fishes (Nest
		Building & coast
		benefit), conflict
		within families:
		parent offspring
		conflict and
		sibling rivalry

Subjects: Zoology Honours

LEARNING MODULE DSE(B)-6-3-P Sem. – 6

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).

Subjects: Zoology General

LEARNING MODULE: CC3-3-TH Sem. – 3

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, Ultrastructure 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	6	Class room lecture	The students will
	account of		through chalk and	get overall idea
	Physiology of		talk	and
	digestion in the			comprehensive
	alimentary canal;			overview about
	Absorption of			Physiology of
	carbohydrates,			digestion in the
	proteins, lipids			alimentary
				canal;
				Absorption of
				carbohydrates,
				proteins, lipids

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
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	gland. 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

samp	oles.	various types of
		Qualitative test for
		carbohydrate
		samples.

Subjects: Zoology General

LEARNING MODULE: CC4-4-TH Sem. – 4

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

LEARNING MODULE: CC4-4-P Sem. – 4

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

Subjects: Zoology General