Format of Teaching Plan

MADHAB CHOUDHURY COLLEGE, BARPETA

Academic Session:: 2022-23
(Odd/Even Semester)

Name of the Teacher : Champak Deuri
Designation : Associate professor
Department : Education

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
BA 1st Sem Edu-HC 1016	Unit: 4 Edu-HC-1016	Discipline and Freedom -Meaning and importana Discipline Vs order Forms of Discipline place of reward and punishment -Concept of Free Discipline	25	8th August to 5th Nov. 2022 (Excluding Sundays and holidays)
BA 1st Sem Edu-HC 1026	Unit: 4 Edu-HC-1026	Intelligence, Creativity and personality Intelligence its meaning nature and thories Creativity its Concept and Characteristics	20	18th August to 5th Nov. 2022 Excluding Sundays and holidays
BA 3rd Sem Edu-HC 3026	Unit: 2 Edu-HC-3026	personality its meaning Thories Information and Communication Technology Concept nature and Components of Communication Barriers of Communication	22	28th Sept to 4th Nov. 2022 (Excluding Sundays and holidays)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
	Unit: 3 Edu-HC-3026	Models of teaching Concept, nature and Characteristics Inquiry model CAI, Team Teaching personalized system of instruction	22	18th Sept to 4th Nov. 2022 Excluding Sundays and holidays)
BA 3rd Sem Edu-HC-3036	Unit 1 Edu-HC-3036	Value: Concept and characteristics Sources of value Importance of value	28	'Do'
5th Sem Edu-HC-5016	Unit: 3 Edu-HC-5016	Educational Achievement Test: meaning and objectives Different types of Educational achievement Test		18th Sept to 10th Nov. 2022 Excluding Sundays and holidays)
5th Sem Edu-HC-5016	Unit: 4 Edu-HC-5016	personality Test- meaning and nature Types of personality measurement.	22	

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
5th Sem Edu-HC-DSE 5026	Unit: 4 Unit: 5 Edu-DSE-5026	Adolescence: meaning and definition Need and importance of studying adolescence -Characteristics Social, Emotional and personality development of adolescence	27	20th Sept. to 4th Nov 2022. (Excluding Sundays and holidays)
BA 1st Sem Edu-RC 1016	Unit: 2 Edu-RC-1016	Philosophy and Education: philosophy its meaning nature and scope philosophy of Education: meaning and scope. Relationship between Education and philosophy, Impact of philosophy on education.	20	18th August to 2nd Nov 2022 (Excluding Sundays and holidays)
BA 3rd Sem Edu-RC-3016	Unit: 3 Edu-RC-3016	Organization of- Guidance service meaning of- Guidance service	20	15th Sept to 3rd Nov 2022 (Excluding Sundays and holidays)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
		need of Guidance service Components of Guidance service Qualities of a good Counsellor		
BA 3rd Sem Edu-SEC-3014	Unit: 1 (Half) Edu-SEC-3014	public speaking and Communication skill Concept and nature of Communication Communication cycle Types of Communication. Barriens of Communication	13	14th Sept to 2nd Nov 2022. (Excluding Sundays and holidays)
5th Sem Edu-DSE 5026 (RC)	Unit: 4 Edu-DSE-5026	Adolescence meaning and definition. Need and Importance Characteristics of adolescence, physical and Intellectual development during Adolescence	21	17th Sept to 5th Nov 2022 (Excluding Sundays and holidays)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
5th Sem Edu- SE-5014	Unit :2 (Half) Edu- SE-5014	Extension Methods Extension methods with particular reference to Home visit, Group discussion Exibition, Campaigning	18	18th Sept- to 2nd Nov 2022 (Excluding Sundays and holidays)

9-08-2022

TEACHING PLAN

MADHAB CHOUDHURY COLLEGE, BARPETA

ACADEMIC SESSION:**2022-23**

Name of the Teacher : ***Sarat Chandra Bhuyan***

Designation : *Assistant Professor*

Department : **Anthropology**

Month	Class	Title of the Chapters/Units	Contents	No. of Lectures to be delivered	Dates(approx)
AUG 2022	H. S. II	Unit- I Unit- II (Practical)	Physical Anthropology Osteology and Social Survey	2	18,25
	Hons. TDC Sem I	Paper ANT-HC-1016 Unit- V Unit- II	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division Pract. Somatoscopy	8	Aug.8—31 (Only working days)
	Hons TDC Sem III	Paper ANT-HC 3016 Unit- I Unit V	Evolutionary changes in human skeleton with special reference to skull, dentition vertebral column, pelvic, femur and fo Elementary statistics: Frequency table, Arithmetic mean, histogram.Median, Mode, Methods of Frequency polygon and	6	Aug.8—31 (Only working days)
	Hons TDC Sem V	Paper ANT-HC-5016 Unit- IV Unit- V Practical Unit- I Unit- II Unit- III	Mechanism for dynamics in gene frequency: mutation,selection,genetic drift, gene flow migration inbreeding and itsconsequences. Population structure and admixture in human population. Random and non-random mating,heretibility estimate. ABO/RH blood grouping Testing of colour blindness PTC Test	20	Aug.8—31 (Only working days)
	Regular TDC Sem I	Paper ANT-RC-1016 Unit- V	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division	3	11 18 25
SEP, 2022	Regular TDC Sem III	Paper ANT-RE 3016 Unit- V	Methods of estimation of time	5	Sep1—30 (Only working days)
	Regular TDC Sem V	Paper ANT-RE-5016 Unit- IV	Anthropology of religion, politics and economy. Intrelationship between religion, politics and economy, religious conversion and movements, emergence of new religious sects into global order	4	—do—
	H. S. II	Unit- I Unit- II (Practical)	Physical Anthropology Osteology and Social Survey	6	—do—
	Hons TDC Sem I	Paper ANT-HC 1016 Unit-V	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division	8	Sep 1—30 (Only working days)
	Hons	Paper ANT-HC-			

	TDC Sem III	3026 Unit- I Unit- II Unit- III	Concept of ecology,adaptation,acclimatization Bio-cultural adaptation. Pract- Biocultural dimensions Elementary statistics: Frequency table, Arithmetic mean, Median, Mode, Methods of Frequency polygon and histogram.	9	--do--
	Hons TDC Sem V	Paper ANT- RE-5016 Unit- IV Unit- V Practical Unit- I Unit- II Unit- III	Mechanism for dynamics in gene frequency: mutation,selection,genetic drift, gene flow , migration inbreeding and itsconsequences. Population structure and admixture in human population. Random and non-random mating,heretibility estimate. ABO/RH blood grouping Testing of colour blindness PTC Test	14	--do-
	Regular TDC Sem I	Paper ANT-RC 1016 Unit-V	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division	4	--do--
	Regular TDC Sem III	Paper ANT-RC-3016 Unit-	Methods of estimation of time	3	-do-
OCT, 2022	Regular TDC Sem V	Paper ANT-RE-5016 Unit- IV	Anthropology of religion, politics and economy. Intrrelationship between religion, politics and economy, religious conversion and movements, emergence of new religious sects into global order	6	Oct11--31(Onlyworking days)
OCT 2022	H. S. II	Unit- I Unit- II (Practical)	Physical Anthropology Osteology and Social Survey	4	--do--
	Hons TDC Sem I	Paper ANT-HC 1016 Unit-V	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division .	5	---do--
	Hons TDC Sem III	Paper ANT-HC-3026 Unit-I Unit- II Unit- III	Concept of ecology,adaptation,acclimatization Bio-cultural adaptation. Pract- Biocultural dimensions	7	--do--
	Hons TDC Sem V	Paper ANT-HE-5016 Unit- V	Indian Archaeology Important excavated sites of N.E.Indian Daojalihading, Selbalgiri,Ambari	12	--do--
	Regular TDC Sem I	Paper ANT-RC-1016 Unit-I	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division	3	--do--
	Regular I TDC Sem III	ANT-SE-3014 Tourism Anth	Unit-I Contemporary tourism	3	---do--
NOV, 2022	Regular TDC Sem V	Paper ANT-HG-5026- Unit- III Unit-iv	Fundamentals of Human Origin and Evolution Hominisation process Origin of modern human	3	Nov1--30(Onlyworking days)

NOV 2022	H. S. II	Unit- I Unit- II (Practical)	Physical Anthropology Osteology and Social Survey	4	--do--
	Hons TDC Sem I	PaperANT-HC-1016 Unit- I	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division	5	--do--
	Hons TDC Sem III	Paper ANT-SE 3014 Unit- III	Unit-I Contemporary tourism Elementary statistics: Frequency table, Arithmetic mean, Median, Mode, Methods of Frequency polygon and histogram.	2	--do--
	Hons TDC Sem V	Paper ANT-HC-5016 Unit- V	Indian Archaeology Important excavated sites of N.E.Indian Daojali hading, Selbalgiri,Ambari	12	--do--
	Regular TDC Sem I	Paper ANT-HC-1016 Unit- I	Elementary genetics: Mendel's Laws of Inheritance. Biological basis of inheritance, Cell, Chromosome, Gene, Cell division	3	--do--
	Regular TDC Sem III	Paper ANT-RC-3016	Methods of estimation of time	2	--do--
DEC, 2022	Regular TDC Sem V	PaperANT-SE=5014 Unit- I	Media anthropology Introduction	3	Dec1-24 (Onlyworking days)
DEC 2022	Hons TDC Sem II	Paper ANT-HC-2016 Unit- V	Culture,language and communication	3	--do--
	Hons TDC Sem IV	Paper M 4016 Unit- III	Future dynamics in anth	3	--do--
JANUARY, 2023	Regular TDC Sem II	Paper ANT-RC-2016 Unit- V	Culture,language and communication	1	Jan18-31(Onlyworking days)
	Regular TDC Sem IV	Paper ANT-RC-4016 Anth.in practice Unit-iii	Future dynamic in Anth.	1	--do--
	Regular TDC Sem VI	PaperANT-GE-6016 Part- I	Human Ecology Biological dimensions	1	--do--

FEBRUARY, 2023	Hons TDC Sem II	PaperANT-HC-2016 Unit- V	Culture,language and communication	7	Feb1—28(Onlyworking days)
	Hons TDC Sem IV	Paper ANT-RC-4016 Unit- III	Future dynamic in Anth	8	--do--
	Hons TDC Sem VI	PaperANT-HC-6016 Unit- I Practical Unit- I Unit- II Unit- III	Forensic Anthropology Introduction Estimation of age and sex Somatometric and somatoscopic observation Finger prints and hand writing	20	--do--
FEBRUARY, 2023	Hons TDC Sem II	PaperANT-HC-2026 Unit- II Unit- IV Unit V	Fundamentals of Human Origin and Evolution Hominisation process Origin of modern human Evolutionary changes in human skeleton	4	--do--
	Hons TDC Sem IV	Paper ANT-SE-4014	Statistical methods of health sc	4	--do--
	Hons TDC Sem VI	PaperANT-HE-6036 Unit-III	Demographic anthropology Tools of demographic data Fertility, mortality and migration	4	--do--
MARCH, 2023	Hons TDC Sem II	Paper ANT-HC-2026 unit-V	Culture language &communication	8	Mar1-31 (Onlyworking days)
	Hons TDC Sem IV	PaperANT-HC-4026 Unit- III	Human growth and development Concept of growth Prenatal and post-natal growth Human physique Somatometry & obesity	8	--do--
	Hons TDC Sem VI	PaperANT-HC-6016 Unit- I Practical I II III	Forensic Anthropology Introduction Estimation of age and sex Somatometric and somatoscopic observation Finger prints and hand writing	18	--do--
MARCH, 2023	Hons TDC Sem II	PaperANT-HC 2026 First Half: Unit- III Unit- IV	Fundamental of human origin and evolution Hominisation Evolutionary changes in the human skeleton	5	--do-
	Hons TDC Sem IV	PaperANT-HC-4026 Unit-I Unit- II Unit-V Pract.	Human growth and development Concept of growth Prenatal and post-natal growth Human physique Somatometry & obesity	5	--do--

	Hons TDC Sem VI	PaperANT-HC-6016 Unit-	Forensic Anthropology Introduction Estimation of age and sex Somatometric and somatoscopic observation Finger prints and hand writing	3	--do--
APRIL, 2023	Hons TDC Sem II	Paper ANT-HC-2026 Unit IV Unit-V	Fundamental of human origin and evolution Hominisation Evolutionary changes in the human skeleton	7	Apr1-30 (Only working days)
	Hons TDC Sem IV	Paper ANT-SE-4014	Statistical methods of health sc.	4	--do--
	Hons TDC Sem VI	Paper ANT-HE-6036- Unit-III	Demographic Anthropology Fertility, mortality &migration	15	--do--
APRIL, 2023	Hons TDC Sem II	Paper ANT-RC-2016	Culture,language &communication	3	--do--
	Hons TDC Sem IV	Paper ANT-RC-4016 Part-i	Future dynamics in anthropology	4	--do--
	Regular TDC Sem VI	PaperANT-HC-6016	Forensic anthropology	3	--do--
	Regular TDC Sem IV	PaperANT-SE-4014 Unit- II	Statistical methods of health sc.	2	--do--

Signature.....

Date: 03-09-2022/Sat

TEACHING PLAN 2022-23

DAISY BRAHMA

ASSISTANT PROFESSOR

DEPARTMENT OF ZOOLOGY

MADHAB CHOUDHURY COLLEGE

BARPETA

MADHAB CHOUDHURY COLLEGE, BARPETA		
TEACHING/ LESSION PLAN		
SESSION: 2022-23		
NAME OF THE TEACHER:	Daisy Brahma	
DEPARTMENT	Zoology	
DESIGNATION:	Assistant Professor	
COURSE :	B.Sc.1st Semester (hons)	
PAPER NAME:	DIVERSITY OF NON-CHORDATES (PROTISTS TO PSEUDOCOELOMATE)	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 5: Platyhelminthes General characteristics and classification upto classes, Life cycle and pathogenicity of *Fasciola hepatica* and *Taenia solium* Unit 6: General characteristics and classification upto classes, Life cycle and pathogenicity *Ascaris lumbricoides* and *Wuchereria bancrofti* Parasitic adaptation of helminthes Practical: Study of whole mount of Euglena, Amoeba and Paramecium Study of minimum of two representatives of each phylum of non-chordate Study of adult Fasciola hepatica, Taenia solium and their life cycle	TENTATIVE DATES	12-8-22----20-9-22
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to acquire 1. Parasitic life cycle affecting several organisms 2. Precautions and preventions of parasitic infections
	PLANNED ACTIVITIES	Explanation with diagram, digital presentation, periodical assessment, interaction among students
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book, text book
	ASSESMENT	Class test, board presentation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc.1st Semester (G+R)	
PAPER NAME:	ANIMAL DIVERSITY	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
General characteristics and classification upto classes; life history of T. solium General features of Agnatha and classification of cyclostomes upto classes	TENTATIVE DATES	August to October
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	Students are able to acquire 1. Parasitic life cycle affecting several organisms 2. Precautions and preventions of parasitic infections
	PLANNED ACTIVITIES	Explanation with diagram, digital presentation, periodical assessment, interaction among students
	RESOURCE/ MATERIALS	Google classroom, reference book
	ASSESMENT	Home assignment
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc.1st Semester (G+R)	
PAPER NAME:	ANIMAL DIVERSITY	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
General characteristics and classification upto classes; life history of T. solium	TENTATIVE DATES	August to October
	NUMBER OF CLASSES	8

General features of Agnatha and classification of cyclostomes upto classes	LEARNING OUTCOMES	Students are able to acquire 3. Parasitic life cycle affecting several organisms 4. Precautions and preventions of parasitic infections
	PLANNED ACTIVITIES	Explanation with diagram, digital presentation, periodical assessment, interaction among students
	RESOURCE/ MATERIALS	Google classroom, reference book
	ASSESMENT	Home assignment
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 4: Agnatha- general characteristics and classification of cyclostomes up to class	TENTATIVE DATES	August
	NUMBER OF CLASSES	2
	LEARNING OUTCOMES	Classification of chordate Relation between chordate and non-chordate
	PLANNED ACTIVITIES	Board teaching, digital presentation
	RESOURCE/ MATERIALS	Reference book, e-resources, notes
	ASSESMENT	On-class quiz
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)
PAPER NAME:	DIVERSITY OF CHORDATES
PAPER CREDIT:	Credit: 3 (T) + 1 (P)

PAPER CODE:	Code: ZOO-HC-3026	
UNIT/ TOPIC	MARKS ASSIGNED:	3
Unit 3: nervous system Types of synapse, synaptic transmission and neuromuscular junction, reflex action and its types-reflex arc; physiology of hearing and vision Unit 5: Histology of testis and ovary, physiology of male and female reproduction, puberty, methods of contraception in male and female Practical: 1. Study of permanent slides of mammalian skin, cartilage, bone, spinal cord, nerve cell, pituitary, pancreas, testis, ovary, adrenal, thyroid and parathyroid	TENTATIVE DATES	August – November
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	1. Human Nervous system 2. Transmission of nerve impulses 3. Human reproductive physiology 4. Contraception for human 5. Human fertilization
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-3036	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 3: Amino acids :structure, classification and general properties of A-amino acids; physiological importance of essential and non-essential	TENTATIVE DATES	October - November
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	1. Structure of amino acids 2. Makeup of protein

alpha amino acid		3. Essential of amino acids
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 3rd Semester (regular)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Structure of nephron, Mechanism of urine formation, Counter current mechanism Biosynthesis and beta oxidation of palmitic acid Practical 1. Study of permanent slides of spinal cord, duodenum, liver, lung, kidney, bone, cartilage. 2. Study of permanent histological sections of mammalian pituitary, thyroid, pancreas, adrenal gland	TENTATIVE DATES	August – October
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	1. Learn about physiology of human kidney. 2. Saturated fatty acid biosynthesis in animals 3. How urine form in humans
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)
PAPER NAME:	DIVERSITY OF CHORDATES
PAPER CREDIT:	Credit: 3 (T) + 1 (P)
PAPER CODE:	Code: ZOO-HC-5016

UNIT/ TOPIC	MARKS ASSIGNED:	2.5
Unit 4 Translation : Genetic code, degeneracy of genetic code and Wobble hypothesis; Process of protein synthesis in prokaryotes; Proteins involves in translation; inhibition of protein synthesis; difference between prokaryote and eukaryote translation Unit 5 : post transcriptional modification and processing of Eukaryotic RNA Structure of globin mRNA; split gene Practical: 1. Study of polytene chromosomes from chironomous/ drosophila larva	TENTATIVE DATES	August – October
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	Process of protein synthesis Makeup of protein Gene translation How antibiotics inhibit protein synthesis
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)
PAPER NAME:	DIVERSITY OF CHORDATES
PAPER CREDIT:	Credit: 3 (T) + 1 (P)
PAPER CODE:	Code: ZOO-HC-5026

UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 5 : Criteria for Extra chromosomal inheritance, antibiotic resistance in *chlamydomonas*; mitochondrial mutation in *Saccharomyces*, infective heredity in *Paramecium* and maternal effects Unit 6: Polygenic inheritance with suitable example; simple numerical based on it	TENTATIVE DATES	September – November
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	1. Inheritance apart from nuclear information. 2. Antibiotic resistance genes 3. Maternal effect 4. Polygenic inheritance of skin colour, eye colour, hair type
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual

	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HE-5016	
UNIT/ TOPIC	MARKS ASSIGNED:	3.5
Unit 1: Importance, goal, scope; genomics, transcriptomic, system biology, functional genomics, metabolomics, molecular phylogeny; application and limitations of bioinformatics Unit 2: Introduction to biological databases, primary, secondary and composite databases; Nucleic acid databases; protein databases; metabolic pathway database; small molecule database Unit 3: Generation of data, sequence submission tools, sequence file format, sequence annotation; data retrieval system Unit 4: Scoring matrices; method of alignment, dynamic programming, local and global alignment, pair wise and multiple sequence alignments; similarity identity and homology of sequences. Practical:	TENTATIVE DATES	September- December
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Importance of computational biology Use of bioinformatics in current research. Drug designing and drug interaction. Databases present to access and submissions Branch of phylogenetic tree and phylogenetic tree building
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual, experimental teaching using computer lab.
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation, on-hand training to access databases.
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

1. accessing biological databases 2. Retrieval of nucleotide and protein sequences from the databases 3. To perform pair-wise alignment of sequences and interpret the output 4. Predict the structure of protein from its amino acid sequence		

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HE-5036	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Hormones in homeostasis, disorders in endocrine gland Practical: 1. Study of permanent slide of endocrine gland. 2. Designing of primers of any hormone	TENTATIVE DATES	November
	NUMBER OF CLASSES	6
	LEARNING OUTCOMES	Regulation and balance of hormone secretion in humans Different types of diseases related to endocrine gland Treatment and cure for endocrine disorders
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 5th Semester (regular)
PAPER NAME:	DIVERSITY OF CHORDATES

PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-RE-5026	
UNIT/ TOPIC	MARKS ASSIGNED:	1.5
Unit 8 : Preservation and artificial insemination in cattle; induction of early puberty and synchronization of estrus in cattle Unit 9: Principles of poultry breeding, management of breeding stock and broilers, processing and preservation of eggs	TENTATIVE DATES	August to October
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Poultry farming, types of egg, maintenance, early puberty and induction of breeding in cattle's, Generation of entrepreneurship and job generations
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc.2nd Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-1021	
UNIT/ TOPIC	MARKS ASSIGNED:	1.5
Unit 3 : General characteristics and classification of Amphibia, Reptilia, aves and mammalia upto order Practical: 1.study of museum specimen	TENTATIVE DATES	January - April
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Classification of chordate Basics of animal categorisation Identification and discovery of new species.

3. Study of T.S of Amphioxus through pharyngeal, intestinal and caudal regions.	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc.2nd Semester (hons)	
PAPER NAME:	DIVERSITY OF NON-CHORDATES (PROTISTS TO PSEUDOCOELOMATE)	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-2016	
UNIT/ TOPIC -	MARKS ASSIGNED:	2.5 -
Unit 5: general characteristics and classification upto classes, respiration in mollusca, torsion and detorsion in gastropoda, pearl formation, evolutionary significance of trochopore larva Practical: 1. study of specimens	TENTATIVE DATES	February- May
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	1. Models of human plasma membranes 2. Working physiology of plasma membrane. 3. Transport system of cell and process of nutrients transport
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc.2nd Semester (hons)

PAPER NAME:	DIVERSITY OF NON-CHORDATES (PROTISTS TO PSEUDOCOELOMATE)	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-2026	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Unit 2: plasma membrane Various models of plasma membrane structure , transport across membranes: active and passive transport, facilitated transport, cell junctions: tight junction, desmosomes, gap junctions	TENTATIVE DATES	February- May
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	4. Models of human plasma membranes 5. Working physiology of plasma membrane. 6. Transport system of cell and process of nutrients transport
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4026	
UNIT/ TOPIC	MARKS ASSIGNED:	3
Unit 2: physiology of respiration Histology of trachea and lung: mechanism of respiration, pulmonary ventilation; respiratory volumes and capacities; transport of oxygen and	TENTATIVE DATES	January - March
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	1. Anatomy of human respiratory organ 2. Transport of various gases 3. Process of binding of oxygen

carbon dioxide in blood; respiratory pigments, dissociation curves and factors influencing it; carbone monoxide poisoning; control of respiration. Practical 1. Examination of section of mammalian oesophagus, stomach, duodenum, ileum, rectum, liver, trachea, lung, kidney		and carbon dioxide 4. Factor effecting respiration
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4036	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 3 : lipid metabolism b-oxidation and omega oxidation of saturated fatty acids with even and odd number of carbon atoms; biosynthesis of palmitic acid; ketogenesis unit 4: protein metabolism Catabolism of amino acid: transamination, deamination, urea cycle; fate of C-skeleton of glucogenic and ketogenic amino acids. Practical: 1. Estimation of SGOT and SGPT in serum/tissue	TENTATIVE DATES	March - May
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	1. Process of lipid synthesis in human 2. Process of lipid storage 3. Use of lipid 4. Types of lipids 5. How proteins are digested and utilized in human body
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 4th Semester (regular)

PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.5
Unit 4: Mutations Chromosomal mutation: deletion duplication, inversion, translocation, aneuploidy and polyploidy; gene mutation; induced versus spontaneous mutations. Unit 9: processes of evolutionary change Natural selection, types of natural selection, artificial selection.	TENTATIVE DATES	January - April
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	1. Different type of genetic mutation. 2. How the diseases are carried from parents to children. 3. How natural selection occurs in the process of evolution
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-6016	
UNIT/ TOPIC	MARKS ASSIGNED:	2.5
Unit 2 : early embryonic development – gametogenesis, spermatogenesis, oogenesis; types of eggs, egg membranes; fertilization(external and internal), changes in gametes, blocks to polyspermy; planes and pattern of cleavage; types of	TENTATIVE DATES	January to April
	NUMBER OF CLASSES	18
	LEARNING OUTCOMES	1. Fertilization and development process, process of egg and sperm formation 2. Various process of fertilization according to species to species 3. Different types of egg

blastula ; fate maps; early development of chick and frog upto gastrulation; embryonic induction and oraganizers. Unit 3- late embryonic development – Fate of germ layers; extra-embryonic membranes in birds; implantation of embryo in humans, placenta (structure, types and functions of placenta) Practical: 1. Study of whole mount and sections of developmental stages of frog through permanent slides 2. Study of whole mount of chick through permanent slides 3. Study of life cycle and developmental stages and life cycle of drosophila 4. Project report on drosophila culture		4. Fate of cell what they shall become in future. 5. How the embryo is implanted in uterus
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual,
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-6026	
UNIT/ TOPIC	MARKS ASSIGNED:	1.5
Unit 8: Origin and evolution of man, unique hominin characteristic constrated with primate characteristics, primate phylogeny from dryopithecus leading to homo sapiens, molecular analysis of human	TENTATIVE DATES	March - May
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	1. Human evolution 2. Link between primate and modern human. 3. Ancestor in evolution

origin. Unit 9: phylogenic trees, multiple sequence alignment, construction of phylogenetic trees, interpretation of trees Practical: Construction of phylogenetic trees with the help of bioinformatics tools		4. Construction of phylogenic tree and how to interpret
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual, on-hand in computer
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HE-6026	
UNIT/ TOPIC	MARKS ASSIGNED:	0.5
Unit 5: fish in research Transgenic fish, zebra fish as a model organism in research	TENTATIVE DATES	May- June
	NUMBER OF CLASSES	3
	LEARNING OUTCOMES	1. What is animal model 2. What are the importance of animal model? 3. Use of Zebra fish in current research to study human disease and developmental biology
	PLANNED ACTIVITIES	Oral presentation, board presentation, ppt presentation, audio-visual
	RESOURCE/ MATERIALS	Google classroom, notes, reference books, audio-visual
	ASSESMENT	Interaction among students, student board presentation,
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, interaction with slow learner

TEACHING PLAN
MADHAB CHOUDHURY COLLEGE, BARPETA
ACADEMIC SESSION: 2022-23 (August, 2022 – June, 2023)

Name of the Teacher: **Dr. Dip Kumar Bhattacharjya**
Designation: Assistant Professor (Selection Grade)
Department: Botany.

MONTH	CLASS	TITLE OF THE CHAPTER/ UNIT	CONTENT	NO. OF LECTURE	DATES
August	HS-II	Reproduction in Flowering Plants	Flower, Microsporogenesis, Megasporogenesis	3	11, 18, 25
	1st Sem (GE)	Archegoniates Unit-IV	Introduction to Archegoniate, Unifying features of archegoniates	4	10, 17, 24, 31
	3rd Sem (H)	Morphology and Anatomy of Angiosperms Unit-II	Introduction and scope of plant Anatomy	---	---
	5th Sem (H)	Reproductive Biology of Angiosperms: Unit 1, Unit 2 and Unit-3	Introduction History (contributions of G.B. Amici, W. Hofmeister, E. Strasburger, S.G. Nawaschin, P. Maheshwari, B.M. Johri, W.A. Jensen, J. Heslop-Harrison) and scope. Reproductive development; Induction of flowering; flower as a modified determinate shoot. Flower development: genetic and molecular aspects. Anther and pollen biology Anther wall: Structure and functions, microsporogenesis, callose deposition and its significance. Microgametogenesis; Pollen wall structure, MGU (male germ unit) structure, NPC system; Palynology and scope (a brief account); Pollen wall proteins; Pollen viability, storage and germination; Abnormal features: Pseudomonads, polyads, massulae, pollinia.	---	---
	1st Sem PG	Bryophytes Unit-VI	Origin, evolution, classification, biochemistry, physiology and ecology; diversity and distribution in North East India, Economic importance.	---	---
	3rd Sem PG	Reproductive and Developmental Botany, Biostatistics-	Sporogenesis and Gametogenesis in plants; pollination, double fertilization, embryogenesis,	6	10, 12, 17, 19, 24, 26, 31

		Unit-II	development of endosperms, types of endosperms		
September	HS-II	Reproduction in Flowering Plants	Male gametogenesis, Female gametogenesis, Fertilization.	4	8, 15, 22, 29
	1st Sem (GE)	Archegoniates Unit-IV	Transition to land habit, Alternation of generations.	4	9, 16, 28, 30
	3rd Sem (H)	Morphology and Anatomy of Angiosperms Unit-II	Application in systematics, forensics and pharmacognosy	4	6, 13, 20, 27
	5th Sem (H)	Reproductive Biology of Angiosperms: Unit-4 and 5	Ovule Structure; Types; Special structures–endothelium, obturator, aril, caruncle and hypostase; Female gametophyte–megasporogenesis (monosporic, bisporic and tetrasporic) and megagametogenesis (details of Polygonum type); Organization and ultrastructure of mature embryo sac. Pollination and fertilization: Pollination types and significance; adaptations; structure of stigma and style; path of pollen tube in pistil; double fertilization.	19	5, 6, 8, 9, 10, 12, 13, 15, 16, 17, 19, 20, 22, 23, 24, 26, 27, 29, 30
	1st Sem PG	Bryophytes. Unit-VI	Morphological, anatomical and reproductive diversity. Morphogenesis. Evolution of gametophytes and sporophytes; Bryophytes as pollution indicator and monitoring.	15	7, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24, 28, 29, 30
	3rd Sem PG	Reproductive and Developmental Botany. Unit-II	polyembryony, seeds and seed development, seed dispersal; apomixis, apospory, parthenocapy; comparative embryology.	12	5, 7, 8, 12, 14, 15, 19, 21, 22, 26, 28, 29
October	HS-II	Reproduction in Flowering Plants	Fertilization – double fertilization	3	13, 20, 27
	1st Sem (GE)	Bryophyta Unit-5	General characteristics, adaptations to land habit, Classification, Range of thallus organization.	2	12, 19
	3rd Sem (H)	Economic Botany Unit-9	Drug-yielding plants (8 lectures) Therapeutic and habit-forming drugs with special reference to Cinchona, Digitalis, Papaver and Cannabis	2	18, 25
	5th Sem (H)	Reproductive Biology of Angiosperms:	Self-incompatibility Basic concepts (interspecific, intraspecific, homomorphic,	8	17, 18, 20, 21, 22, 27, 28, 29

		Unit 6	heteromorphic, GSI and SSI); Methods to overcome self- incompatibility: mixed pollination, bud pollination, stub pollination; Intra-ovarian and in vitro pollination; Modification of stigma surface, parasexual hybridization; Cybrids, in vitro fertilization.		
	1st Sem PG	Diversity-II: Pteridophytes, Gymnosperm and Angiosperm	Angiosperms: Historical background of Plant Taxonomy; Pre Darwinian, Post Darwinian and recent system of classifications (Takhtajan, Cronquist, APG); recent trends in Taxonomy; ICN- History, Principles and major rules of nomenclature, type concept, principles of priority and its limitation, effective and valid publication, author citation	12	12, 13, 14, 15, 19, 20, 21, 22, 26, 27, 28, 29
	3rd Sem PG	Palynology Unit-V	Pollen morphology, ultrastructure, pollen chemistry, viability, storage and adaptation	6	13, 17, 20, 21, 27, 28
November	HS-II	---	---	---	---
	1st Sem (GE)	Bryophyta Unit-5	Classification (up to family), morphology, anatomy and reproduction of Marchantia and Funaria. Ecology and economic importance of bryophytes with special mention of Sphagnum.	4	9, 16, 23, 30
	3rd Sem (H)	Economic Botany Unit-9	Tobacco (Morphology, processing, uses and health hazards)	4	3, 10, 17, 24
	5th Sem (H)	Reproductive Biology of Angiosperms: Unit 7 and 8	Embryo, Endosperm and Seed Structure and types; General pattern of development of dicot and monocot embryo and endosperm; Suspensor: structure and functions; Embryo-endosperm relationship; Nutrition of embryo; Unusual features; Embryo development in Paeonia. Seed structure, importance and dispersal mechanisms Polyembryony and apomixis Introduction; Classification; Causes and applications.	21	1, 3, 4, 5, 7, 8, 10, 11, 12, 14, 15, 17, 18, 19, 21, 22, 24, 25, 26, 28, 29
	1st Sem PG	Diversity-II Unit-IV	Plant collection and documentation; importance	13	4, 5, 6, 7, 11, 12, 13, 18, 19,

			of botanical gardens and herbaria in taxonomic studies: important botanical gardens in India and abroad; Botanical Survey of India.		25, 26, 27, 28
	3rd Sem PG	Palynology Unit-V	Applications of palynology: aeropalynology and pollen allergy, melissopalynology, forensic palynology, palaeopalynology and hydrocarbon exploration.	17	2, 3, 4, 5, 9, 10, 11, 12, 16, 17, 18, 19, 23, 24, 25, 26, 29
December	**Internal Assessment evaluation, Examination duty and Answer script evaluation work.**				
January	2nd Sem (H)	Archegoniate – Introduction Unit-I	Unifying features of archegoniates; Transition to land habit; Alternation of generations.	9	4, 5, 6, 11, 12, 18, 19, 24, 25,
	4th Sem (H)	*Systems of classification* Unit 3	Major contributions of Theophrastus, Bauhin, Tournefort, Linnaeus, Adanson, de Candolle, Bessey, Hutchinson, Takhtajan and Cronquist; Classification systems of Bentham and Hooker (upto series) and Engler and Prantl (upto series); Brief reference of Angiosperm Phylogeny Group (APG) classification.	12	2, 4, 5, 9, 11, 12, 16, 18, 19, 23, 25, 30
	6th Sem (H)	Dissertation	Individual topics to the students	7	4, 6, 11, 18, 20, 25, 27
	6th Sem (GE)	*Imaging and related techniques* Unit - 1	Introduction, concept, definition, Autecology and Principles of microscopy; Light microscopy; Fluorescence microscopy; Confocal microscopy	7	2, 5, 9, 16, 19, 23, 30
	2nd Sem PG	Unit-VI	Evolution, co evolution, Lamarckism, Darwinism, synthetic theory.	3	6, 20, 27
	4th Sem PG	Sources of Taxonomic Characters: Unit-I Modern Approach to Taxonomy: Unit-II Dissertation work	Morphology, Anatomy, Palynology, Embryology, Cytology, Phytochemistry, Serology., major areas. Molecular Approach in taxonomy, Diagnostic tools, Polymerase Chain Reaction (PCR) analysis, applications of molecular markers in plant taxonomy; Biosystematics: Definition, importance and categories; Role of computers in taxonomic studies, commonly available software Supervising field and laboratory work	22	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 16, 18, 19, 20, 21, 23, 24, 25, 27, 28, 30, 31

February	2nd Sem (H)	Bryophyta Unit-II	General characteristics; Adaptations to land habit; Classification; Range of thallus organization	8	1, 2, 8, 9, 15, 16, 22, 23
	4th Sem (H)	*Numerical taxonomy and cladistics* Unit 4	Characters; Variations; OTUs, character weighting and coding; Cluster analysis; Phenograms, cladograms (definitions and differences)	8	1, 2, 6, 8, 9, 13, 15, 16, 20, 22, 23, 27
	6th Sem (H)	Dissertation	Individual topics to the students	8	1, 3, 8, 10, 15, 17, 22, 24
	6th Sem (R)	*Imaging and related techniques* Unit - I	Ecological Use of fluorochromes: (a) Flow cytometry (FACS); (b) Applications of fluorescence microscopy: Chromosome banding, FISH, chromosome painting	8	2, 6, 9, 13, 16, 20, 23, 27
	2nd Sem PG	Unit-VI	Wiseman's theory, modern theory of evolution.	4	3, 10, 17, 24
	4th Sem PG	Taxonomic Literature: Unit-III Process of Identifications: Unit-IV Dissertation work	Classical and recent literature of World in general and India in particular (World flora, Indian flora); Taxonomic journals, Icones, Check list, Illustrations Herbarium techniques: Methods of Collection, Identification and Documentation; Roles and importance of herbaria, Botanical Gardens and Museums in taxonomic studies, major Herbaria and Botanic Gardens in World and India. Supervising field and laboratory work	23	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 27, 28
March	2nd Sem (H)	Type studies-Bryophytes	Classification, morphology, anatomy and reproduction of Riccia, Marchantia, Anthoceros, Sphagnum and Polytrichum; Reproduction and evolutionary trends in Riccia, Marchantia, Anthoceros, Sphagnum and Polytrichum. Ecological and economic importance of bryophytes.	12	1, 2, 3, 9, 10, 15, 16, 17, 23, 24, 29, 30
	4th Sem (H)	*Phylogeny of Angiosperms* Unit 5	Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).	12	1, 2, 6, 9, 13, 15, 17, 20, 24, 27, 29, 31

	6th Sem (H)	Dissertation	Individual topics to the students	8	1, 3, 10, 15, 17, 24, 29, 31
	6th Sem (R)	*Imaging and related techniques* Unit - 1	Transmission and Scanning electron microscopy – sample preparation for electron microscopy	9	2, 6, 9, 13, 16, 20, 23, 27, 30
	4th Sem PG	Botanical exploration: Unit-V Dissertation work	Contributions made in earlier and recent periods. Presentation of Data : Flora, Manuals, Monograph, Revision; Preparation of a flora; Botanical keys, their construction and uses. Supervising the dissertation work	21	1, 2, 3, 4, 6, 9, 10, 11, 16, 17, 18, 20, 21, 23, 24, 25, 27, 28, 29, 30, 31
April	2nd Sem (H)	Type studies-Bryophytes	Reproduction and evolutionary trends in Riccia, Marchantia, Anthoceros, Sphagnum and Polytrichum. Ecological and economic importance of bryophytes.	7	5, 6, 12, 19, 20, 26, 27
	4th Sem (H)	*Phylogeny of Angiosperms* Unit 5	Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).	6	5, 12, 19, 21, 26, 28
	6th Sem (H)	Dissertation	Individual topics to the students	7	5, 12, 19, 21, 26, 28, 29
	6th Sem (R)	*Imaging and related techniques* Unit - 1	Cryofixation, negative staining, shadow casting, freeze fracture, freeze etching	8	3, 6, 10, 13, 17, 20, 24, 27
	4th Sem PG	Flora of North East India: Unit-II Botanical Survey of India: Unit-III Dissertation work	Characteristics of flora of Northeast India; Endemic, Exotics and RET Plants of North East India, their multiplication and conservation. History, Activities, Publications. Supervising the dissertation work	18	3, 4, 5, 6, 8, 10, 11, 12, 17, 18, 19, 20, 21, 24, 25, 26, 27, 28
May	2nd Sem (H)	All units	Class test, seminar, revision etc.	---	---
	4th Sem (H)	All units	Class test, seminar, revision etc.	---	---
	6th Sem (H)	All units	Class test, seminar, revision etc.	---	---
	6th Sem (GE)	All units	Class test, seminar, revision etc.	---	---
	2nd Sem PG	All units	Class test, seminar, revision etc.	---	---
	4th Sem PG	All units	Class test, seminar, revision	---	---

		Dissertation work	etc. Guiding final report preparation		
June	**Internal Assessment evaluation, Examination duty and Answer script evaluation work.**				

Dip Kumar Bhattacharjya

(*Dr. Dip Kumar Bhattacharjya*)
PG Dept. of Botany,
M.C. College, Barpeta.

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TEACHING PLAN

MC COLLEGE, BARPETA
ACADEMIC SESSION 2022-23
(ODD SEMESTER)

Name of Teacher: **Dr Bipul Sarma**
Designation: Associate Professor
Department: Mathematics

Month	Class	Title of the Chapter/Units	Contents	No of Lectures	Period
Sep	1st Sem (H)	Pap HC 1026 Unit 3	Statements and logic, statements with quantifier	6	August
	3rd Sem (H)	HC 3026 Unit 1	Group and their examples Subgroup, Symmetries of a square, Dihedral groups	10	Sep
	3rd Sem (R)	RC 3016	Second Order Linear Differential Equations	6	Sep
	5th Sem (R)	RE 5026 Unit 2	Lattices as ordered sets, Lattices as algebraic structures, Sublattices	2	Sep
	5th Sem (H)	HC 5016 Unit 1	Riemann integration: upper and lower sums; Darboux integrability, properties of integral, Fundamental theorem of calculus	10	Sep
Oct	1st Sem (H)	Pap HC 1026 Unit 2	Sets, operations on sets, family of sets, power sets, Cartesian product; Functions	8	Oct
	3rd Sem (H)	HC 3026 Unit 1	Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups	20	Oct
	3rd Sem (R)	RC 3016	Second Order Linear Differential Equations	6	Sep
	5th Sem (R)	RE 5026 Unit 2	Theorem with applications, Complemented lattice	8	Oct
	5th Sem (H)	HC 5016 Unit 2	Metric spaces: definition and examples, sequences in metric spaces, Cauchy sequences, complete metric spaces. Open and closed balls, neighbourhood	18	Oct

Nov	1st Sem (H)	Pap HC 1026 Unit 2	Relation, Equivalence relations, Equivalence classes and partitions of a set	8	Nov
	3rd Sem (H)	HC 3026 Unit 2	Cycle notation for permutations, properties of permutations, even and odd permutations, alternating group.	20	Nov
	5th Sem (R)	RE 5026 Unit 2	Relatively complemented lattice, Sectionally complemented lattice, homomorphisms.	6	Nov
	5th Sem (H)	HC 5016 Unit 3	Continuous mappings, sequential criterion and other characterizations of continuity. Uniform continuity	28	Nov
Dec	1st Sem (H)	Pap HC 1026 Unit 2	Congruence modulo n in integers; Induction Principles, the well-ordering principle, greatest common divisor of integers	4	Dec
	3rd Sem (H)	HC 3026 Unit 2	Group homomorphisms, properties of homomorphisms, Cayley's theorem, properties of isomorphisms	18	Dec
	5th Sem (H)	HC 5016 Unit 3	Connectedness, connected subsets of **R**, connectedness and continuous mappings	12	Dec
Aug, Sep, Oct, Nov 2022	HS 2nd year	Differential Calculus, Integral Calculus	Continuity, Derivability, Differentiation of algebraic, logarithimic and parametric function, Integration of algebraic, trigonometric function, definite integral, basic differential equation	42	

Signature of Teacher:

TEACHING PLAN
MADHAB CHOUDHURY COLLEGE, BARPETA
ACADEMIC SESSION: 2022-23 (August, 2022 – June, 2023)

Name of the Teacher: **Dr. Dip Kumar Bhattacharjya**
Designation: Assistant Professor (Selection Grade)
Department: Botany.

MONTH	CLASS	TITLE OF THE CHAPTER/ UNIT	CONTENT	NO. OF LECTURE	DATES
August	HS-II	Reproduction in Flowering Plants	Flower, Microsporogenesis, Megasporogenesis	3	11, 18, 25
	1st Sem (GE)	Archegoniates Unit-IV	Introduction to Archegoniate, Unifying features of archegoniates	4	10, 17, 24, 31
	3rd Sem (H)	Morphology and Anatomy of Angiosperms Unit-II	Introduction and scope of plant Anatomy	---	---
	5th Sem (H)	Reproductive Biology of Angiosperms: Unit 1, Unit 2 and Unit-3	Introduction History (contributions of G.B. Amici, W. Hofmeister, E. Strasburger, S.G. Nawaschin, P. Maheshwari, B.M. Johri, W.A. Jensen, J. Heslop-Harrison) and scope. Reproductive development; Induction of flowering; flower as a modified determinate shoot. Flower development: genetic and molecular aspects. Anther and pollen biology Anther wall: Structure and functions, microsporogenesis, callose deposition and its significance. Microgametogenesis; Pollen wall structure, MGU (male germ unit) structure, NPC system; Palynology and scope (a brief account); Pollen wall proteins; Pollen viability, storage and germination; Abnormal features: Pseudomonads, polyads, massulae, pollinia.	---	---
	1st Sem PG	Bryophytes Unit-VI	Origin, evolution, classification, biochemistry, physiology and ecology; diversity and distribution in North East India, Economic importance.	---	---
	3rd Sem PG	Reproductive and Developmental Botany, Biostatistics-	Sporogenesis and Gametogenesis in plants; pollination, double fertilization, embryogenesis,	6	10, 12, 17, 19, 24, 26, 31

		Unit-II	development of endosperms, types of endosperms		
September	HS-II	Reproduction in Flowering Plants	Male gametogenesis, Female gametogenesis, Fertilization.	4	8, 15, 22, 29
	1st Sem (GE)	Archegoniates Unit-IV	Transition to land habit, Alternation of generations.	4	9, 16, 28, 30
	3rd Sem (H)	Morphology and Anatomy of Angiosperms Unit-II	Application in systematics, forensics and pharmacognosy	4	6, 13, 20, 27
	5th Sem (H)	Reproductive Biology of Angiosperms: Unit-4 and 5	Ovule Structure; Types; Special structures–endothelium, obturator, aril, caruncle and hypostase; Female gametophyte–megasporogenesis (monosporic, bisporic and tetrasporic) and megagametogenesis (details of Polygonum type); Organization and ultrastructure of mature embryo sac. Pollination and fertilization: Pollination types and significance; adaptations; structure of stigma and style; path of pollen tube in pistil; double fertilization.	19	5, 6, 8, 9, 10, 12, 13, 15, 16, 17, 19, 20, 22, 23, 24, 26, 27, 29, 30
	1st Sem PG	Bryophytes. Unit-VI	Morphological, anatomical and reproductive diversity. Morphogenesis. Evolution of gametophytes and sporophytes; Bryophytes as pollution indicator and monitoring.	15	7, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24, 28, 29, 30
	3rd Sem PG	Reproductive and Developmental Botany. Unit-II	polyembryony, seeds and seed development, seed dispersal; apomixis, apospory, parthenocapy; comparative embryology.	12	5, 7, 8, 12, 14, 15, 19, 21, 22, 26, 28, 29
October	HS-II	Reproduction in Flowering Plants	Fertilization – double fertilization	3	13, 20, 27
	1st Sem (GE)	Bryophyta Unit-5	General characteristics, adaptations to land habit, Classification, Range of thallus organization.	2	12, 19
	3rd Sem (H)	Economic Botany Unit-9	Drug-yielding plants (8 lectures) Therapeutic and habit-forming drugs with special reference to Cinchona, Digitalis, Papaver and Cannabis	2	18, 25
	5th Sem (H)	Reproductive Biology of Angiosperms:	Self-incompatibility Basic concepts (interspecific, intraspecific, homomorphic,	8	17, 18, 20, 21, 22, 27, 28, 29

		Unit 6	heteromorphic, GSI and SSI); Methods to overcome self- incompatibility: mixed pollination, bud pollination, stub pollination; Intra-ovarian and in vitro pollination; Modification of stigma surface, parasexual hybridization; Cybrids, in vitro fertilization.		
	1st Sem PG	Diversity-II: Pteridophytes, Gymnosperm and Angiosperm	Angiosperms: Historical background of Plant Taxonomy; Pre Darwinian, Post Darwinian and recent system of classifications (Takhtajan, Cronquist, APG); recent trends in Taxonomy; ICN- History, Principles and major rules of nomenclature, type concept, principles of priority and its limitation, effective and valid publication, author citation	12	12, 13, 14, 15, 19, 20, 21, 22, 26, 27, 28, 29
	3rd Sem PG	Palynology Unit-V	Pollen morphology, ultrastructure, pollen chemistry, viability, storage and adaptation	6	13, 17, 20, 21, 27, 28
November	HS-II	---	---	---	---
	1st Sem (GE)	Bryophyta Unit-5	Classification (up to family), morphology, anatomy and reproduction of Marchantia and Funaria. Ecology and economic importance of bryophytes with special mention of Sphagnum.	4	9, 16, 23, 30
	3rd Sem (H)	Economic Botany Unit-9	Tobacco (Morphology, processing, uses and health hazards)	4	3, 10, 17, 24
	5th Sem (H)	Reproductive Biology of Angiosperms: Unit 7 and 8	Embryo, Endosperm and Seed Structure and types; General pattern of development of dicot and monocot embryo and endosperm; Suspensor: structure and functions; Embryo-endosperm relationship; Nutrition of embryo; Unusual features; Embryo development in Paeonia. Seed structure, importance and dispersal mechanisms Polyembryony and apomixis Introduction; Classification; Causes and applications.	21	1, 3, 4, 5, 7, 8, 10, 11, 12, 14, 15, 17, 18, 19, 21, 22, 24, 25, 26, 28, 29
	1st Sem PG	Diversity-II Unit-IV	Plant collection and documentation; importance	13	4, 5, 6, 7, 11, 12, 13, 18, 19,

			of botanical gardens and herbaria in taxonomic studies: important botanical gardens in India and abroad; Botanical Survey of India.		25, 26, 27, 28
	3rd Sem PG	Palynology Unit-V	Applications of palynology: aeropalynology and pollen allergy, melissopalynology, forensic palynology, palaeopalynology and hydrocarbon exploration.	17	2, 3, 4, 5, 9, 10, 11, 12, 16, 17, 18, 19, 23, 24, 25, 26, 29
December	**Internal Assessment evaluation, Examination duty and Answer script evaluation work.**				
January	2nd Sem (H)	Archegoniate – Introduction Unit-I	Unifying features of archegoniates; Transition to land habit; Alternation of generations.	9	4, 5, 6, 11, 12, 18, 19, 24, 25,
	4th Sem (H)	*Systems of classification* Unit 3	Major contributions of Theophrastus, Bauhin, Tournefort, Linnaeus, Adanson, de Candolle, Bessey, Hutchinson, Takhtajan and Cronquist; Classification systems of Bentham and Hooker (upto series) and Engler and Prantl (upto series); Brief reference of Angiosperm Phylogeny Group (APG) classification.	12	2, 4, 5, 9, 11, 12, 16, 18, 19, 23, 25, 30
	6th Sem (H)	Dissertation	Individual topics to the students	7	4, 6, 11, 18, 20, 25, 27
	6th Sem (GE)	*Imaging and related techniques* Unit - 1	Introduction, concept, definition, Autecology and Principles of microscopy; Light microscopy; Fluorescence microscopy; Confocal microscopy	7	2, 5, 9, 16, 19, 23, 30
	2nd Sem PG	Unit-VI	Evolution, co evolution, Lamarckism, Darwinism, synthetic theory.	3	6, 20, 27
	4th Sem PG	Sources of Taxonomic Characters: Unit-I Modern Approach to Taxonomy: Unit-II Dissertation work	Morphology, Anatomy, Palynology, Embryology, Cytology, Phytochemistry, Serology., major areas. Molecular Approach in taxonomy, Diagnostic tools, Polymerase Chain Reaction (PCR) analysis, applications of molecular markers in plant taxonomy; Biosystematics: Definition, importance and categories; Role of computers in taxonomic studies, commonly available software Supervising field and laboratory work	22	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 16, 18, 19, 20, 21, 23, 24, 25, 27, 28, 30, 31

February	2nd Sem (H)	Bryophyta Unit-II	General characteristics; Adaptations to land habit; Classification; Range of thallus organization	8	1, 2, 8, 9, 15, 16, 22, 23
	4th Sem (H)	*Numerical taxonomy and cladistics* Unit 4	Characters; Variations; OTUs, character weighting and coding; Cluster analysis; Phenograms, cladograms (definitions and differences)	8	1, 2, 6, 8, 9, 13, 15, 16, 20, 22, 23, 27
	6th Sem (H)	Dissertation	Individual topics to the students	8	1, 3, 8, 10, 15, 17, 22, 24
	6th Sem (R)	*Imaging and related techniques* Unit - I	Ecological Use of fluorochromes: (a) Flow cytometry (FACS); (b) Applications of fluorescence microscopy: Chromosome banding, FISH, chromosome painting	8	2, 6, 9, 13, 16, 20, 23, 27
	2nd Sem PG	Unit-VI	Wiseman's theory, modern theory of evolution.	4	3, 10, 17, 24
	4th Sem PG	Taxonomic Literature: Unit-III Process of Identifications: Unit-IV Dissertation work	Classical and recent literature of World in general and India in particular (World flora, Indian flora); Taxonomic journals, Icones, Check list, Illustrations Herbarium techniques: Methods of Collection, Identification and Documentation; Roles and importance of herbaria, Botanical Gardens and Museums in taxonomic studies, major Herbaria and Botanic Gardens in World and India. Supervising field and laboratory work	23	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 27, 28
March	2nd Sem (H)	Type studies-Bryophytes	Classification, morphology, anatomy and reproduction of Riccia, Marchantia, Anthoceros, Sphagnum and Polytrichum; Reproduction and evolutionary trends in Riccia, Marchantia, Anthoceros, Sphagnum and Polytrichum. Ecological and economic importance of bryophytes.	12	1, 2, 3, 9, 10, 15, 16, 17, 23, 24, 29, 30
	4th Sem (H)	*Phylogeny of Angiosperms* Unit 5	Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).	12	1, 2, 6, 9, 13, 15, 17, 20, 24, 27, 29, 31

	6th Sem (H)	Dissertation	Individual topics to the students	8	1, 3, 10, 15, 17, 24, 29, 31
	6th Sem (R)	*Imaging and related techniques* Unit - 1	Transmission and Scanning electron microscopy – sample preparation for electron microscopy	9	2, 6, 9, 13, 16, 20, 23, 27, 30
	4th Sem PG	Botanical exploration: Unit-V Dissertation work	Contributions made in earlier and recent periods. Presentation of Data : Flora, Manuals, Monograph, Revision; Preparation of a flora; Botanical keys, their construction and uses. Supervising the dissertation work	21	1, 2, 3, 4, 6, 9, 10, 11, 16, 17, 18, 20, 21, 23, 24, 25, 27, 28, 29, 30, 31
April	2nd Sem (H)	Type studies-Bryophytes	Reproduction and evolutionary trends in Riccia, Marchantia, Anthoceros, Sphagnum and Polytrichum. Ecological and economic importance of bryophytes.	7	5, 6, 12, 19, 20, 26, 27
	4th Sem (H)	*Phylogeny of Angiosperms* Unit 5	Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).	6	5, 12, 19, 21, 26, 28
	6th Sem (H)	Dissertation	Individual topics to the students	7	5, 12, 19, 21, 26, 28, 29
	6th Sem (R)	*Imaging and related techniques* Unit - 1	Cryofixation, negative staining, shadow casting, freeze fracture, freeze etching	8	3, 6, 10, 13, 17, 20, 24, 27
	4th Sem PG	Flora of North East India: Unit-II Botanical Survey of India: Unit-III Dissertation work	Characteristics of flora of Northeast India; Endemic, Exotics and RET Plants of North East India, their multiplication and conservation. History, Activities, Publications. Supervising the dissertation work	18	3, 4, 5, 6, 8, 10, 11, 12, 17, 18, 19, 20, 21, 24, 25, 26, 27, 28
May	2nd Sem (H)	All units	Class test, seminar, revision etc.	---	---
	4th Sem (H)	All units	Class test, seminar, revision etc.	---	---
	6th Sem (H)	All units	Class test, seminar, revision etc.	---	---
	6th Sem (GE)	All units	Class test, seminar, revision etc.	---	---
	2nd Sem PG	All units	Class test, seminar, revision etc.	---	---
	4th Sem PG	All units	Class test, seminar, revision	---	---

		Dissertation work	etc. Guiding final report preparation		
June	**Internal Assessment evaluation, Examination duty and Answer script evaluation work.**				

Dip Kumar Bhattacharjya

(*Dr. Dip Kumar Bhattacharjya*)
PG Dept. of Botany,
M.C. College, Barpeta.

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TEACHING PLAN

MC COLLEGE, BARPETA
ACADEMIC SESSION 2022-23
(ODD SEMESTER)

Name of Teacher: **Dr Bipul Sarma**
Designation: Associate Professor
Department: Mathematics

Month	Class	Title of the Chapter/Units	Contents	No of Lectures	Period
Sep	1st Sem (H)	Pap HC 1026 Unit 3	Statements and logic, statements with quantifier	6	August
	3rd Sem (H)	HC 3026 Unit 1	Group and their examples Subgroup, Symmetries of a square, Dihedral groups	10	Sep
	3rd Sem (R)	RC 3016	Second Order Linear Differential Equations	6	Sep
	5th Sem (R)	RE 5026 Unit 2	Lattices as ordered sets, Lattices as algebraic structures, Sublattices	2	Sep
	5th Sem (H)	HC 5016 Unit 1	Riemann integration: upper and lower sums; Darboux integrability, properties of integral, Fundamental theorem of calculus	10	Sep
Oct	1st Sem (H)	Pap HC 1026 Unit 2	Sets, operations on sets, family of sets, power sets, Cartesian product; Functions	8	Oct
	3rd Sem (H)	HC 3026 Unit 1	Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups	20	Oct
	3rd Sem (R)	RC 3016	Second Order Linear Differential Equations	6	Sep
	5th Sem (R)	RE 5026 Unit 2	Theorem with applications, Complemented lattice	8	Oct
	5th Sem (H)	HC 5016 Unit 2	Metric spaces: definition and examples, sequences in metric spaces, Cauchy sequences, complete metric spaces. Open and closed balls, neighbourhood	18	Oct

Nov	1st Sem (H)	Pap HC 1026 Unit 2	Relation, Equivalence relations, Equivalence classes and partitions of a set	8	Nov
	3rd Sem (H)	HC 3026 Unit 2	Cycle notation for permutations, properties of permutations, even and odd permutations, alternating group.	20	Nov
	5th Sem (R)	RE 5026 Unit 2	Relatively complemented lattice, Sectionally complemented lattice, homomorphisms.	6	Nov
	5th Sem (H)	HC 5016 Unit 3	Continuous mappings, sequential criterion and other characterizations of continuity. Uniform continuity	28	Nov
Dec	1st Sem (H)	Pap HC 1026 Unit 2	Congruence modulo n in integers; Induction Principles, the well-ordering principle, greatest common divisor of integers	4	Dec
	3rd Sem (H)	HC 3026 Unit 2	Group homomorphisms, properties of homomorphisms, Cayley's theorem, properties of isomorphisms	18	Dec
	5th Sem (H)	HC 5016 Unit 3	Connectedness, connected subsets of **R**, connectedness and continuous mappings	12	Dec
Aug, Sep, Oct, Nov 2022	HS 2nd year	Differential Calculus, Integral Calculus	Continuity, Derivability, Differentiation of algebraic, logarithimic and parametric function, Integration of algebraic, trigonometric function, definite integral, basic differential equation	42	

Signature of Teacher:

TEACHING PLAN (2022-2023)

DR. CHIRANJIT BARUAH
ASSISTANT PROFESSOR
DEPARTMENT OF ZOOLOGY
MADHAB CHOUDHURY COLLEGE, BARPETA

2022-2023

MADHAB CHOUDHURY COLLEGE, BARPETA		
TEACHING/ LESSION PLAN		
SESSION: 2022-23 **ODD SEMESTER**		
NAME OF THE TEACHER:	Dr. Chiranjit Baruah	
DEPARTMENT	Zoology	
DESIGNATION:	Assistant Professor	
COURSE :	1st Semester	
PAPER NAME:	**CORE COURSE I** **NON-CHORDATES I: PROTISTS TO PSEUDOCOELOMATES**	
PAPER CREDIT:	**THEORY (Credits 4)**	
PAPER CODE:	**CODE: ZOO-HC-1016**	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 3: Cnidaria (12) Cnideria: General characteristics and Classification upto classes Metagenesis in *Obelia* Polymorphism in Cnidaria Corals and coral reefs.	TENTATIVE DATES	August to October 2022
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	Generate knowledge on various classes of Cnideria. Basis of classification and rules of identification of Cnideria. Functional and physiological aspects of Cnideria.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc.1st Semester (G+R)	
PAPER NAME:	**ANIMAL DIVERSITY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 3: Phylum Cnidaria 3 General characters and classification up to classes; Polymorphism in Hydrozoa **Unit 5: Phylum Nemathelminthes 5** General characters and classification up to classes; Life history of Ascaris lumbricoides and its parasitic adaptations **Unit 7: Phylum Arthropoda 5** General characters and classification up to classes; Vision in Arthropoda, Metamorphosis in Insects	TENTATIVE DATES	August to November 2022
	NUMBER OF CLASSES	16
	LEARNING OUTCOMES	To generate knowledge on the phylums Cnideria, Nemathelminthes and Arthropoda. Basis of classification and Specific characters of these animals and rules for identification of animals of various classes. Specific characters of these classes of animals. Functional and physiological aspects of these animal groups.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	**DIVERSITY OF CHORDATA THEORY (Credits 4)**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 1: Introduction to Chordates 2 General characteristics and outline classification	TENTATIVE DATES	August 2022
	NUMBER OF CLASSES	3
	LEARNING OUTCOMES	The students will have a knowledge on various classes of animals ranging from Protista to Pseudocoelomates. Basis of classification of these animals.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	**CORE COURSE VI** **ANIMAL PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS (THEORY)**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	**CODE: ZOO-HC-3026**	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 3: Nervous System 10 Structure of neuron, resting membrane potential, Origin of action potential and its propagation across the myelinated and unmyelinated nerve fibers. Types of synapse, Synaptic transmission and,	TENTATIVE DATES	September to October 2022
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	To generate knowledge on co-ordination between various tissue systems of animals and molecular and chemical basis of muscle contraction, nerve impulse transmission and bone development.

Neuromuscular junction; Reflex action and its types - reflex arc; Physiology of hearing and vision.		
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	**FUNDAMENTALS OF BIOCHEMISTRY THEORY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-3036	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit5: Enzymes 18 Nomenclature and classification; Cofactors; Specificity of enzyme action; Isozymes; Mechanism of enzyme action; Enzyme kinetics; Factors affecting rate of enzyme-catalyzed reactions; Derivation of Michaelis-Menten equation, Concept of Km and Vmax, Lineweaver- Burk plot; Multi-substrate reactions; Enzyme inhibition; Allosteric enzymes and their kinetics; Regulation of enzyme action.	TENTATIVE DATES	October to November, 2022
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	To generate knowledge on Enzyme classification, mechanism of action, Kinetics and their regulation. To give Practical knowledge on factors associated with enzyme action
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 3rd Semester (regular)	
PAPER NAME:	**CORE COURSE III PHYSIOLOGY AND BIOCHEMISTRY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	
Uni 7: Carbohydrate Metabolism 8 Glycolysis, Krebs Cycle, Pentose phosphate pathway, Gluconeogenesis, Glycogen metabolism, Review of electron transport chain. **Unit 10: Enzymes 6** Introduction, Mechanism of action, Enzyme Kinetics, Inhibition and Regulation	TENTATIVE DATES	August to November 2022
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	The students shall learn about metabolism of Carbohydrate, Lipid and Protein. Develop understanding the mechanism of enzyme action, enzyme kinetics and regulation.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	**CORE COURSE XI MOLECULAR BIOLOGY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-5016	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit3:Transcription 10 RNA polymerase and transcription Unit, mechanism of transcription in prokaryotes and eukaryotes, synthesis of rRNA and mRNA, transcription factors.	TENTATIVE DATES	August- September, 2022
	NUMBER OF CLASSES	14
	LEARNING OUTCOMES	To generate idea on what is transcription and how does it occur and what are post transcriptional processes.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	**CORE COURSE XII CODE: ZOO-HC-5026 PRINCIPLES OF GENETICS**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	**CODE: ZOO-HC-5026**	
UNIT/ TOPIC	MARKS ASSIGNED:	
Principles of inheritance, Incomplete dominance and co-dominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, Sex-linked, sex-influenced and sex-limited characters inheritance.	TENTATIVE DATES	September to October, 2022
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	Students will be able to generate idea on Mendelian genetics. Generate idea on sex chromosomal inheritance, Polygenic inheritance. Practical idea on application of Mendel's laws,
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/	Prescribed books and online materials

	MATERIALS	
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	ENDOCRINOLOGY THEORY (Credits 4)	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	CODE: ZOO-HE-5036	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit3:Peripheral Endocrine Glands 18 Structure, Hormones, Functions and Regulation of Thyroid gland, Parathyroid, Adrenal, Pancreas, Ovary and Testis Hormones in homeostasis, Disorders of endocrine glands	TENTATIVE DATES	October to November 2022
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	To make students aware about structure and functions of various endocrine glands, They shall be able to develop idea on regulation of hormone actions. Students will be able to identify different endocrine glands in animals.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 5th Semester (regular)	
PAPER NAME:	**DSE 2 APPLIED ZOOLOGY THEORY (CREDITS 4)**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	**CODE: ZOO-RE-5026**	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 5: Parasitic Helminthes 5 Life history and pathogenicity of Ancylostoma duodenale and Wuchereria bancrofti. Unit 6: Insects of Economic Importance 8 Biology, Control and damage caused by *Helicoverpa armigera, Pyrilla perpusilla and Papilio demoleus, Calloso bruchus chinensis, Sitophilus oryzae* and *Tribolium castaneum.*	TENTATIVE DATES	August to November, 2022
	NUMBER OF CLASSES	14
	LEARNING OUTCOMES	To generate an idea about Host-parasite Relationship. To generate a brief on Epidemiology of Diseases and their causing agents. To identify and study the life cycle of different medically and economically important insects.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials. Collection of pests and pest effected plant parts from surrounding areas.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	**NON MULBERY SERICULTURE**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-SE-5014	
UNIT/ TOPIC	MARKS ASSIGNED:	
Various aspects of Non Mulbery Sericulture	TENTATIVE DATES	August to November, 2022
	NUMBER OF CLASSES	

	LEARNING OUTCOMES	To gain knowledge on the life history and rearing of non-mulberry silk worms. To develop basic ideas on food of silk worms, diseases and their control. To become acquainted with the food plants of non-mulberry silk worms. Knowledge on employment generation and potential of sericulture.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

EVEN SEMESTER 2022-2023

COURSE :	**B.Sc.2nd Semester (hons)**	
PAPER NAME:	**ZOO-HC-2016 NON-CHORDATES II: COELOMATES**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	**ZOO-HC-2016**	
UNIT/ TOPIC	MARKS ASSIGNED:	
ZOO-HC-2016 NON-CHORDATES II: COELOMATES **Unit 3: Arthropoda:** General characteristics and Classification upto classes Vision and Respiration in Arthropoda. Metamorphosis in Insects. Social life in bees and	TENTATIVE DATES	February to April 2023
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	The students will have a knowledge on classes of Arthropoda and Onychophora. Basis of classification of these animals.

termites. **Unit 4: Onychophora:** General characteristics and Evolutionary significance		Specific characters of these classes of animals. Functional and physiological aspects of these animal groups. Gain knowledge on some special physiological and behavioural aspects of such animal groups.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	
COURSE :	**B.Sc.2nd Semester (hons)**	
PAPER NAME:	**CELL BIOLOGY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-2026	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 1: Over view of Cells: Prokaryotic and Eukaryotic cells, Virus, Viroids, Mycoplasma, Prions	TENTATIVE DATES	April to May 2023
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	Students will have an idea of different types of cells and acellular organisms.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc.2nd Semester (G+R)
PAPER NAME:	**COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES**
PAPER CREDIT:	Credit: 3 (T) + 1 (P)
PAPER CODE:	Code: ZOO-HG/RC-2016

UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 1: Integumentary System 4 Derivatives of integument w.r.t. glands and digital tips **Unit 4: Respiratory System 5** Brief account of Gills, lungs, air sacs and swim bladder **Unit 8: Sense Organs 3** Types of receptors	TENTATIVE DATES	April to May 2023
	NUMBER OF CLASSES	8
	LEARNING OUTCOMES	Successive stages of modification of specific organs and organ systems in groups of vertebrates i.e. Succession of organs in various groups of vertebrates
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	**COMPARATIVE ANATOMY OF VERTEBRATES**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 1: Integumentary System: Structure, functions and derivatives of integument **Unit 2: Skeletal System** Overview of axial and appendicular skeleton, Jaw	TENTATIVE DATES	January to May 2023
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	Students shall develop an overview on different organ systems of vertebrates. They will have an idea about comparative account on different

suspensorium, Visceral arches		organs.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	**ANIMAL PHYSIOLOGY: LIFE SUSTAINING SYSTEMS**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4026	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 1: Physiology of Digestion: Structural organization and functions of gastrointestinal tract and associated glands; Mechanical and chemical digestion of food; Absorptions of carbohydrates, lipids, proteins, water, minerals and vitamins; Hormonal control of secretion of enzymes in Gastrointestinal tract.	TENTATIVE DATES	January to May 2023
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	Knowledge on physiology of digestion.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	**BIOCHEMISTRY OF METABOLIC PROCESSES**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4036	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 2: Carbohydrate	TENTATIVE DATES	March to May 2023

Metabolism: Sequence of reactions and regulation of glycolysis, Citric acid cycle, Phosphate pentose pathway, Gluconeogenesis, Glycogenolysis and Glycogenesis.	NUMBER OF CLASSES	
	LEARNING OUTCOMES	Basic ideas on sequence of reactions and regulation of carbohydrate, lipid and protein metabolism. Idea on ATP generation through ETS. Practical knowledge on activity of different enzymes.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	**NON MULBERY SERICULTURE**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-SE-4014	
UNIT/ TOPIC	MARKS ASSIGNED:	
Various aspects of Non Mulbery Sericulture	TENTATIVE DATES	March to May 2023
	NUMBER OF CLASSES	
	LEARNING OUTCOMES	To gain knowledge on the life history and rearing of non-mulberry silk worms. To develop basic ideas on food of silk worms, diseases and their control. To become acquainted with the food plants of non-mulberry silk worms. Knowledge on employment generation and potential of sericulture.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.

	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 4th Semester (regular)	
PAPER NAME:	**CORE COURSE IV GENETICS AND EVOLUTIONARY BIOLOGY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HG/RC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	20
Unit 2: Mendelian Genetics and its Extension 8 Principles of Inheritance, Chromosome theory of inheritance, Incomplete dominance and codominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, sex linked inheritance, extra-chromosomal inheritance **Unit 5: Sex Determination 4** Chromosomal mechanisms, dosage compensation **Unit 8: Direct Evidences of Evolution 5** Types of fossils, Incompleteness of fossil record, Dating of fossils, Phylogeny of horse	TENTATIVE DATES	January to May 2023
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	To develop ideas about genetics and its different aspects. To develop basic ideas about the causes of evolution. To develop knowledge on genetic mechanism related to evolutionary changes.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	**DEVELOPMENTAL BIOLOGY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-6016	
UNIT/ TOPIC	MARKS ASSIGNED:	10
Unit 5: Implications of Developmental Biology 8 Teratogenesis: Teratogenic agents and their effects on embryonic development; In vitro fertilization, Stem cell (ESC), Amniocentesis	TENTATIVE DATES	February to March 2023
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students will also acquire knowledge on implications of developmental biology like Teratogenesis, Invitro fertilization and Stem cell, and Amniocentesis.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	**CORE COURSE XIV EVOLUTIONARY BIOLOGY**	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-6026	
UNIT/ TOPIC	MARKS ASSIGNED:	10
Unit3: (10) Evidences of Evolution Fossil record (types of fossils, transitional forms, geological time scale, evolution of horse, Molecular (universality of genetic code and protein synthesising machinery, three	TENTATIVE DATES	March to May 2023
	NUMBER OF CLASSES	18
	LEARNING OUTCOMES	Generate idea about the origin of life. Be able to understand and analyse the various evidences of evolution. Understand the role of variation in evolution.

domains of life, neutral theory of molecular evolution, molecular clock ,example of globin gene family, rRNA/cyt c		
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials.
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	DCE 3 AQUATIC BIOLOGY	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	CODE: ZOO-RE-6016 THEORY	
UNIT/ TOPIC	MARKS ASSIGNED:	
UNIT 1: Aquatic Biomes Biomes Brief introduction of the aquatic biomes: Freshwater ecosystem (lakes,wetlands, streams and rivers), estuaries, intertidal zones, oceanic pelagic zone, marine benthic zone and coral reefs. **UNIT 3: Marine Biology** Origin and classification, Lake as an Ecosystem, Lake morphometry, Physico–chemical Characteristics: Light, Temperature, Thermal stratification, Dissolved Solids, Carbonate, Bicarbonates, Phosphates and Nitrates. **UNIT 3: Marine Biology** Salinity and density of Sea water, Continental shelf, Adaptations of deep sea organisms, Coral reefs, Sea weeds.	TENTATIVE DATES	
	NUMBER OF CLASSES	
	LEARNING OUTCOMES	To familiarize the students about Aquatic resources. Management of aquatic resources. Understand pollution of aquatic resources and their control measures.
	PLANNED ACTIVITIES	Class room teaching with audio visual aids along with study materials.
	RESOURCE/ MATERIALS	Prescribed books and online materials.
	ASSESMENT	Through Quizzes, tests.
	REFLECTION	
	ACTION TAKEN	

Format of Teaching Plan

MADHAB CHOUDHURY COLLEGE, BARPETA

Academic Session:: 2022-23
(Odd/Even Semester)

Name of the Teacher : Dr. Gobinda Brahma
Designation : Assistant Prof (Selection Grade)
Department : Education (Honours Course)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
1St Sem (Hons) CBCS	Unit-2 (P-Edu-HC-1016)	• Aims of Edn • Meaning and importance. • Determinants of aims of Edn • Individual and social aims • Democratic aims of Edn.	Theory (34)	8Th August to 5Th Nov, 2022 except Sundays and holidays
3rd Sem (Hons) CBCS	Unit-3 (P-Edu-HC-3016)	• Curriculum • Concept, Nature of curriculum • Defects, types and Principles • Co-relation of Studies • Co-curricular activities	Theory (28)	16Th Sept to 4Th Nov, 2022 except Sundays and holidays
5Th Sem (Hons) CBCS	Unit-1	• Measurment and Evaluation • Meaning and functions • Evaluation and Examination • Examination Reforms • Role of Evaluation in Education • Formative and Summative Evaluation	Theory (23)	18Th Sept to 2nd Nov, 2022 except Sundays or holidays

(Honours Course)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
3rd Sem (Hons) CBCS	Unit : 1 (Paper — Edu-Hc-3016)	• University Education Commission, 1948 • Aims and objectives • NPE • NCF, 2005 • Text Books • Methods of teaching • Teacher's Education • Guidance and Counselling	Theory (22)	28th Sept to 4th Nov, 2022 except Sundays and holidays
3rd Sem (Hons) CBCS	Unit : 5 Paper — Edu-Hc-3016	• Recent development and Problems of Education	Theory (27)	10th Sept to 5th Nov, 2022 except Sundays and holidays
5th Sem (Hons) CBCS	Unit-2 (P-Edu-Hc-5016)	• Test Construction • Criteria of good test • General Problems of test Construction	Theory (25)	9th Sept to 3rd Nov, 2022 except Sundays and holidays

(Regular Course)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
1st Sem (RC) CBCS	Unit-1 (P-Edu-RC-1016)	• Aims of Edu	Theory (25)	17th August 2nd NOV, 2022 ~~kept Sundays and holidays~~
3rd Sem (RC) CBCS	Unit-5 (P-Edu-RC-3016)	• School Guidance Programme	Theory (27)	15 Sept to 3rd NOV, 22 except Sundays and holidays
3rd Sem (HG/RC)	3rd Sem (SEC) (P-Edu-SEC 3014)	• Meaning of Public Speaking • Biodata writing	Theory (22) Practical (02)	16th Sept to 2nd NOV, 2022 ~~except Sundays~~ and holidays
5th Sem (RC) CBCS	Unit: 5 Paper Edu-DSE 5026	• Social and emotional development of adolescence • Role of family • Adjustment Problem	Theory (27)	17th Sept to NOV 5, 2022 except Sundays and holidays
5th Sem (RC) CBCS	Unit-1 Paper Edu-SEC 5014	• Extension activities • Meaning and concept • importance of field trips	Theory (28)	18th Sept. to
—		• Field trip Characteristics • Report writing	Practical (SEC) -	2nd NOV, 2022 except Sundays and holidays

Dr. Govinda Barua 9-8-2022
HoD, Education, H.C. College, Barpeta

TEACHING PLAN

MADHAB CHOUDHURY , COLLEGE, BARPETA

Academic Session::2022-2023

Name of the Teacher : Dr.LunaGoswami
Designation : Assistant Professor
Department : Anthroplology

1	2	3	4	5
Class	Title of the Chapter/Unit	Contents	Nos.lectures to be delivered	Dates (approx)
HS1ST YEAR	Unit 4 Unit 5	i.Cultural Anthropology ii.Social Anthropology	52	Aug. Feb.
HS 2ND YEAR	Unit 3 Unit 5	i.Subsistence Economy ii.Ecology iii Practical	50	Aug-Jan
1st Sem(H)	Paper 1026 Unit1 Unit 2 Unit 5	I Social Anthropology,concept ,scope and relationship ii social institutions iii ethnographic fieldwork iii. Practicals	26	Aug-Nov
1ST Sem(R/G)	Unit 3	Primates	10	Aug-Nov
BA/BSc3rd Sem (Honorus	Paper-3016 Unit-ii,iv	i Tribal adinistration, ii NationalTribalDraft,ethnicity, iiiMonographs	30	Aug-Nov
B. A 3rdSem (General)	Paper 301 Unit 1	Typo-technology of prehistoric tools	16	Aug- Nov
BA/ BSc5th Sem (Major)	Paper 5026 Unit ,ii,iv	.i Role of Anthropologyin deve Lopment Ii Constitutional provisions and Human Right iii.Practicals	26	Aug- Nov

BA /BSc5th Sem (General	Paper E 5016 Unit2	Economic institutions	12	Aug- Nov.
BA 5th Sem (SEC)		Media Anthropology	7	Aug-Nov
2nd sem(H)	Paper 2016 Units iv,vi	I Geo chronology of Pliestocene epoch ii Earliest evidence of Culture	38	Jan-May
2nd Sem (R)	Paper 2 016	i Concept of society and Culture ii Project	15	Jan- May
2ndSm (Sec)	Paper	Types of torism Anthropology	10	Jan- May
4th Sem (H)	Paper 4036 Units,i.ii,v	I Research Design ii Field work Tradition iiiAnalysis and writing up iv Practicals	34	Jan- May
4th sem(R)	ANT-RC4016 Unit iv	ConstitutionalPerspectives and Human rights	17	Jan- May
4th sem (SEC)	Unit iv	Behaviors in public Health	8	Jan- May
6th Sem (H)	Paper6026 Unit ii Unit iv	Contributionof contemporary anthropologists Problems of tribes and constitutional safeguards Field work	15	Jan- May
6th sem(G)	Paper 6036 Unit:	Population of India	8	Jan -May

N:B- Except Sundays and Holidays

Dr. Lura Gurung

Signature:

Date: 1/11/22

TEACHING PLAN (2022-2023)

DR. RIJU SARMA
ASSISTANT PROFESSOR
DEPARTMENT OF ZOOLOGY
MADHAB CHOUDHURY COLLEGE, BARPETA

MADHAB CHOUDHURY COLLEGE, BARPETA		
TEACHING/ LESSION PLAN		
SESSION: 2022-23		
NAME OF THE TEACHER:	Riju Sarma	
DEPARTMENT	Zoology	
DESIGNATION:	Assistant Professor	
COURSE:	B.Sc.1st Semester (hons)	
PAPER NAME:	DIVERSITY OF NON-CHORDATES (PROTISTS TO PSEUDOCOELOMATE)	
PAPER CREDIT:	4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
General characteristics Evolutionary significance of Ctenophora Evolution of symmetry and segmentation of Metazoa Parasitic adaptation in helminthes Practicals- Binary fission and conjugation in Paramecium Study of Specimens (sycon to ctenophore) Study of adult stages of *Fasciola hepatica, Taenia solium, Ascaris lumbricoides* and their life stages	TENTATIVE DATES	11/08/22- 20/10/22
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to know about the 1. evolutionary importance of Ctenophora 2. Evolution of metazoan 3. Adaptation ofheminthes as parasite 4. Reproduction of Paramecium 5. Identification of organisms from different phylum 6. Life cycle of *Fasciola hepatica, Taenia solium, Ascaris lumbricoides*
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion

	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc.1st Semester (G+R)	
PAPER NAME:	ANIMAL DIVERSITY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HG/RC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	3
General characters and classification of Mollusca up to classes; Torsion in gastropods General features and Phylogeny of Protochordata Parasitic adaptation of *Ascaris lumbricoides* Practical- Study of museum specimen (Amoeba-Loris) Study of permanent slides	TENTATIVE DATES	10/08/22- 10/11/22
	NUMBER OF CLASSES	30
	LEARNING OUTCOMES	Students are able to know about the 1. General characters of Mollusca and Protochordata 2. Torsion in Gastropoda 3. Evolution of Protochordata 4. Parasitic nature of Roundworm 5. Identification of organism from different phylum 6. Sections of different body parts of sycon
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)
PAPER NAME:	DIVERSITY OF CHORDATA

PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	2.2
Dipleurula concept and the Echinoderm theory of origin of chordates Advanced features of vertebrates over Protochordata Zoo geographical realms, Theories pertaining to distribution of animals, Plate tectonic and Continental drift theory, distribution of vertebrates in different realms Practical- Study of specimens- Balanoglossus- Sorex	TENTATIVE DATES	10/08/22- 10/11/22
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	Students are able to know about the 1. Origin of Chordata 2. Differences between protochordate and chordate 3. Distribution of animals over the globe 4. Identification of chordate specimen
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, poster preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	ANIMAL PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-3026	
UNIT/ TOPIC	MARKS ASSIGNED:	3
Structure, location, classification and functions of epithelial tissue, connective tissue, muscular tissue and nervous tissue	TENTATIVE DATES	10/ 8/2022- 15/11/22
	NUMBER OF CLASSES	35
	LEARNING OUTCOMES	Students are able to know about the 1. Tissue structure and types,

Structure and types of bones and cartilages, Ossification, bone growth and resorption Practical- Preparation of temporary mounts Study of permanent slides Microtomy		importance of different tissue system 2. Formation of bone 3. Preparation of temporary and permanent slide 4. Sections of different tissues
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, poster preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	FUNDAMENTALS OF BIOCHEMISTRY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-3036	
UNIT/ TOPIC	MARKS ASSIGNED:	2.2
Immunoglobulins: Basic Structure, Classes and Function, Antigenic Determinants Practical- Qualitative test for functional group Paper chromatography Demonstration of SDS-PAGE	TENTATIVE DATES	10/08/22- 10/10/22
	NUMBER OF CLASSES	18
	LEARNING OUTCOMES	Students are able to know about the 1. Diversity of antibody in structure and function 2. Detection of presence of functional group 3. Separation of amino acid by paper chromatography 4. Process of SDS- PAGE
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book

	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (regular)	
PAPER NAME:	PHYSIOLOGY AND BIOCHEMISTRY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HG/RC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	2.4
Pulmonary ventilation, Respiratory volumes and capacities, Trasport of oxygen and carbon dioxide in blood Physiology of male reproduction: hormonal control of spermatogenesis; Physiology of female reproduction: hormonal control of menstrual cycle, structure and function of pituitary, thyroid, parathyroid, pancreas and adrenal Practical- Preparation of haemin crystal Study of Permanent slides Estimation of total protein	TENTATIVE DATES	10/08/22- 15/11/22
	NUMBER OF CLASSES	25
	LEARNING OUTCOMES	Students are able to know about the 1. Process of respiration 2. Reproduction of human 3. Structure and function of human Endocrine gland 4. Estimation of total protein in a solution 5. Preparation of haemin crystal 6. Sections of human endocrine gland
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, chart preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)
PAPER NAME:	MOLECULAR BIOLOGY
PAPER CREDIT:	Credit: 4 (T) + 2 (P)

PAPER CODE:	Code: ZOO-HC-5016	
UNIT/ TOPIC	MARKS ASSIGNED:	3.5
Transcription regulation in prokaryotes: Principles of transcriptional regulation with examples from lac operon and trp operon; Transcription regulation in eukaryotes: Enhancer, Silencer, Activators, Repressors, rs elements; Gene silencing; Gene imprinting Pyrimidine dimerization and mismatch repair Ribo-switches, RNA interference, miRNA, siRNA Practical- Preparation of liquid culture medium Estimation of growth kinetics Quantitative estimation of DNA and RNA Study and interpretation of electron micrograph	TENTATIVE DATES	10/08/22- 20/11/22
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to know about the 1. Transcription regulation in prokaryotes and eukaryotes 2. DNA repair mechanism 3. Gene regulation by RNA 4. Culture of E. coli 5. Estimation of DNA and RNA 6. Process of DNA replication 7. Concept of split gene and transcription unit
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, poster preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	PRINCIPLES OF GENETICS	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-5026	
UNIT/ TOPIC	MARKS ASSIGNED:	2.8
Conjugation, Transformation, Transduction,	TENTATIVE DATES	10/08/22- 20/11/23

Complementation test in Bacteriophage Transposons in bacteria, Ac-Ds elements in maize and P elements in Drosophila, Transposons in humans Practical- To study mendelian inheritance Chi- square analysis Linkage map preparation Study of human karyotype Pedigree analysis	NUMBER OF CLASSES	30
	LEARNING OUTCOMES	Students are able to know about the 1. Bacterial sexual reproduction 2. Transposon in human and bacteria 3. Gene interaction 4. Linkage map preparation 5. Human karyotype preparation and identification, grouping and staining of chromosome
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, quiz
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	COMPUTATIONAL BIOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HE-5016	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Introduction, calculation of standard deviation, standard error, Coefficient of Variance, Chi-square test, Z test, t-Test Practical To perform a two- sample t-test To learn graphical representation	TENTATIVE DATES	10/08/22- 10/09/22
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to know about the 1. Validation of biological data 2. Use of computer tool in biostatistics
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/	Study materials in google classroom,

	MATERIALS	reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	ENDOCRINOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HE-5036	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Hormone action at Cellular level: Hormone receptors, transduction and regulation Hormone action at Molecular level: Molecular mediators, Genetic control of hormone action Practical- Dissect and display of endocrine glands Study of permanent slides	TENTATIVE DATES	10/08/22- 10/09/22
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to know about the 1. Mechanism of hormone action 2. Signal transduction pathway of hormone 3. Location and identification of mammalian endocrine glands 4. Sections of mammalian endocrine gland
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (regular)
PAPER NAME:	APPLIED ZOOLOGY
PAPER CREDIT:	Credit: 4 (T) + 2 (P)

PAPER CODE:	Code: ZOO-RE-5026	
UNIT/ TOPIC	MARKS ASSIGNED:	0.8
Medical importance and control of *Pediculus humanus corporis, Anopheles, Culex, Aedes, Xenopsylla cheopis* Practical Study of Arthopod vectors	TENTATIVE DATES	10/8/22-31/09/22
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to know about the 1. Medical importance of different mosquitoes, pediculus 2. Identification of different arthropod vectors 3. Study of life cycle of arthropod vector and control measure of them
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	-
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc.2nd Semester (hons)	
PAPER NAME:	CELL BIOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-2026	
UNIT/ TOPIC	MARKS ASSIGNED:	2.6
Structure and Functions: Microtubules, Microfilaments and Intermediate filaments Mitosis, Meiosis, Cell cycle and its regulation	TENTATIVE DATES	06/02/23-13/04/23
	NUMBER OF CLASSES	25
	LEARNING OUTCOMES	Students are able to know about the 1. Structure of Cytoskeleton and its assembly 2. Cell cycle and its regulation

GPCR and Role of second messenger (cAMP) Structure and Functions: Endoplasmic reticulum, Golgi Apparatus, Lysosome Practical Preparation of temporary stained Study of various stages of meiosis Preparation of permanent slide		3. Cell signalling system 4. Structure of different cell organelle 5. Process of temporary slide preparation 6. Meiosis 7. Sections of different tissues
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc.2nd Semester (G+R)	
PAPER NAME:	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HG/RC-2016	
UNIT/ TOPIC	MARKS ASSIGNED:	3
Digestive system Implantation of embryo in humans, Formation of human placenta and functions, other types of placenta on the basis of histology; Metamorphic events in frog life cycle and its hormonal regulation Fundamental processes in development (brief idea) – Gene activation, determination, induction, Differentiation, morphogenesis, intercellular	TENTATIVE DATES	01/02/23- 30/3/23
	NUMBER OF CLASSES	25
	LEARNING OUTCOMES	Students are able to know about the 1. Human embryo implantation process 2. Placenta types and structure 3. Metamorphosis in frog 4. Genetic regulation of developmental process 5. Skeleton of frog, fowl, dog and rabbit 6. Developmental stages of frog
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment

communication, cell movements and cell death Practical- Osteology Study of developmental stages of frog Study of different types of placentas Examination of gamets		Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)
PAPER NAME:	COMPARATIVE ANATOMY OF VERTEBRATES
PAPER CREDIT:	Credit: 4 (T) + 2 (P)
PAPER CODE:	Code: ZOO-HC-4016

UNIT/ TOPIC	MARKS ASSIGNED:	2.8
General plan of circulation, evolution of heart and aortic arches Practical Disarticulated skeleton of frog and fowl and Rabbit Carapace and plastron Mammalian skull Structure of any two organs Project on skeletal modifications	TENTATIVE DATES	01/02/23- 13/04/23
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)
PAPER NAME:	ANIMAL PHYSIOLOGY: LIFE SUSTAINING SYSTEMS

PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-4026	
UNIT/ TOPIC	MARKS ASSIGNED:	2.4
Components of blood and their functions; Structure and functions of haemoglobin Haemostasis: Blood clotting system, Kallikrein-Kinninogen system, Complement system& Fibrinolytic system, Haemopoiesis Blood groups: Rh factor, ABO and MN Practical Determination of ABO blood group Enumeration of RBC and WBC Estimation of haemoglobin Preparation of haemin crystal Recording of blood pressure Examination of sections	TENTATIVE DATES	01/02/23- 30/04/23
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to know about the 1. Blood composition 2. Blood coagulation and anticoagulation mechanism 3. Blood grouping 4. Haemin crystal preparation 5. RBC and WBC count 6. Blood pressure measurement
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, poster preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	BIOCHEMISTRY OF METABOLIC PROCESS	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4036	
UNIT/ TOPIC	MARKS ASSIGNED:	0.5
Catabolism vs Anabolism, Stages of catabolism, Compartmentalization of metabolic pathways, Shuttle systems and membrane	TENTATIVE DATES	01/02/23- 30/03/23
	NUMBER OF CLASSES	10
	LEARNING	Students are able to know about the

transporters; ATP as "Energy Currency of cell"; coupled reactions; Use of reducing equivalents and cofactors; Intermediary metabolism and regulatory mechanisms Practical- Estimation of total protein To study enzymatic activity of Trypsin, Lipase, Acid and Alkaline Phosphatase	OUTCOMES	1. Metabolic processes 2. Estimation of protein 3. Activity of different enzymes
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (regular)	
PAPER NAME:	GENETICS AND EVOLUTIONARY BIOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HG/RC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.8
Major Events in History of Life Types of fossils, Incompleteness of fossil record, Dating of fossils, Phylogeny of horse Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution Biological species concept (Advantages and Limitations), Modes of speciation (Allopatric, sympatric) Lamarkism, Darwinism, Neo-Darwinism	TENTATIVE DATES	01/02/23- 30/03/23
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	Students are able to know about the 1. Fossil formation and types 2. Evolution of horse 3. Major extinction process 4. Species formation 5. Mendelian genetics 6. Gene mapping by linkage 7. Human karyotype formation and types of chromosomes 8. Homologous and analogous organs
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book

Practical Study of Mendelian inheritance Study of linkage, recombination, gene mapping Study of human karyotype Study of homology and analogy	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	DEVELOPMENT BIOLOGY	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-6016	
UNIT/ TOPIC	MARKS ASSIGNED:	3.1
Historical prospective and basic concepts: Phases of development, Cell- cell interaction, Pattern formation, Differentiation and growth, Differential gene expression, cytoplasmic determinant and asymmetric cell division Metamorphosis: Changes, Hormonal regulations in amphibians and insects; Regeneration: Modes of regeneration, epimorphosis, morphallaxis and compensatory regeneration (with one example each); Ageing: Concepts and Theories Placenta (Structure, types and functions of placenta)	TENTATIVE DATES	01/02/23- 20/04/23
	NUMBER OF CLASSES	18
	LEARNING OUTCOMES	Students are able to know about the 1. Different processes involved in developmental biology 2. Metamorphosis and regeneration process 3. Process of ageing 4. Placenta types and function 5. Developmental stages of chick
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

Practical Study of whole mounts of frog developmental stages Study of whole mounts of chick developmental stages Study of different sections of Placenta		

COURSE :	B.Sc. 6th Semester (hons)
PAPER NAME:	EVOLUTIONARY BIOLOGY
PAPER CREDIT:	Credit: 4 (T) + 2 (P)
PAPER CODE:	Code: ZOO-HC-6026

UNIT/ TOPIC	MARKS ASSIGNED:	2
Life,s Beginnings: Chemogeny, RNA world, Biogeny, Origin of photosynthesis, Evolution of Eukaryotes Historical review of evolutionary concept: Lamarkism, Darwinism, Neo- Darwinism Extinctions. Background and mass Extinctions (cause and effects), detailed examples of K-T extinction Practical Study of homology and analogy Study and verification of Hardy- Weinberg Law	TENTATIVE DATES	01/02/23- 30/03/23
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to know about the 1. Evolution of eukaryotes 2. Evolutionary theory of Lamark and Darwin 3. Extinction process 4. Homologous and analogous organs
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, chart preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

TEACHING PLAN:2022-23
M.C.COLLEGE,BARPETA

DR.SUMAN DEKA
ASSISTANT PROFESSOR & HOD,
DEPT. OF PHILOSOPHY

Months	Class	Chapter/ Unit	Content	No.of Lectures	Dates
August	H.S.2nd Year	Unit 3,4,5,6	Hypothesis-definition,kinds,conditions,working hypothesis etc.	10	8,9,13,16,22,23,13,20,27,29
	1stsem honours	Unit 1,2,3,4	Argument and Argument form-definitions,distinctions,Truth and Validity-concepts,difference	17	8,9,10,11,12,16,17,18,20,22,23,24,25,26,27,30,31
	preparation of internal marks of 2nd &4th sem, (H+R), practical,project checking etc.	2nd &4th sem final exam is going on from 16th August to 13thSeptember			

September	H.S.2nd Year	Unit 3	Stages of Hypothesis,L.S.Stebbing's classification of hypothesis	12	5,6,10,12,13,17,19,20,24,26,27,30
	1st sem honours Paper Name-Logic 1 (PHI-HC-1026)	Unit 1,2	Deduction and Induction, Categorical propositionimplification.	22	1,2,3,5,6,7,8,9,12,13,15,16,17,19,20,21,22,23,26,27,28,29
	3rd sem honours 'Western Philosophy'(PHI-HC-3016)	Unit 1,2	Ratinalism-descartes,Spinoza,Leibniz.Empiricism:Locke,Berkely,Hume	15	15,16,17,19,20,21,22,23,24,26,27,28,29
	3rd sem (R) 'Ethics'(PHI-RC-3016)	Unit 2,3	theories of punishment Professional Ethics	05	13,19,20,26,27
	3rd sem SEC	Unit 1	Philosophical Counselling—concept,scope,phychological counselling	06	14,17,21,24,27,30
	5th sem honours Paper Name-Philosophy of Upanisads,Paper code:PHI-HE-5016	Unit 3 & 4	Vedas&Upanisads-general social conditions,outlines.Theories of creation-cosmic and acosmic Brahman-Absolute,World Ground,Cosmic-Acosmic Ideal Individual soul,Karma and Samsara,Liberation	20	15,16,17,19,20,21,22,23,24,26,27,28,29
October	H.S.2nd Year	Unit 4	Mill's Inductive Methods	08	11,17,15,18,22,25,29,31,
	1st sem honours	Unit 2	Inference,Categorical Syllogism,Figure,Mo	16	11,12,13,14,15,17,18,19,20,21,22,26,28,29,

			ods,Immediate Inference		30,31
	3rd sem honours	Unit 3	Kant-Synthetic apriori judgement,Space &Time,Categories	16	11,12,13,14,15,17,18, 19,20,21,22,26,28,29, 30,31
	3rd sem (R)	Unit 3	Environmental ethics	04	11,17,18,31,
	3rd sem(SEC)	2nd part	Project	04	
	5thsem honours Paper Name-Phenomenology&Existentialism(PHI-HC-5026)	Unit 1,2	Kierkegaard-stages of human existence,subjectivity ,truth Sartre-existence &essence.freedom, choice	30	11,12,13,14,15,17,18, 19,20,21,22,26,28,29, 30,31
November	H.S.2nd Year	Unit 4	Methods of Induction	10	7,8,14,15,21,28,5,12, 19,26
	1stsem honours	Unit 3	Venn Diagram,idea of exitential import,testing validity.	21	1,2,3,6,7,8,9,10,13,14 ,15,16,17,20,21,22,23 ,27,28,29,30
	3rdsem honours	Unit 4	Hegel-Dialectic Method,Absolute Idealism	21	1,2,3,6,7,8,9,10,13,14 ,15,16,17,20,21,22,23 ,27,28,29,30
	3rd sem (R)	Unit 4	Law of Karma,Varna&Asrama Dharma,Purusarthas, Buddhist Pancasila, Brahmabihara,Bodhisattva	08	7,8,14,15,21,22,28,29
	5thsem honours	Unit 3 &4	Heidegger-Authentic existence,Being in the World,Temporality Husserl-Theory of Essence.	35	1,2,3,5,6,7,8,9,10,12, 13,14,15,16,17,19,20, 21,22,23,26,27,28,29, 30
December	H.S.2nd Year	Unit 4 & 5	Methods of Induction,Realism-naive and scientific	09	3,5,10,12,13,19,20,17 ,24
	1stsem honours	Unit 4	Set theory,operations of set,set notations,Revision	16	1,2,5,10,12,13,14,15, 16,17,19,20,21,22,23, 24
	3rdsem honours	Unit 4	Master-Slaves Dialectic,Question discussion Jaina	16	1,2,5,10,12,13,14,15, 16,17,19,20,21,22,23, 24

	3rd sem (R)	Unit 4	Triratna,Anuvrata,Mahavrata, Question analysis	05	5,12,13,19,20
	5thsem honours	Unit 4	Husserl-Intentionality & Bracketing, Revision,Questions analysis.	20	1,2,5,10,12,13,14,15, 16,17,19,20,21,22,23, 24

January	H.S.2nd Year	Unit 4	Ethics-Nature,Scope, Voluntary and Non-voluntary action	08	2,7,9,16,21,23, 28,30
	2nd sem honours, Paper -core 4 (PHI-HC-2046)	Unit 1	Symbolic Logic-characteristics, uses of symbols,difference with traditional logic,modern classification of proposition	16	2,3,4,5,6,12,16 ,17,18,19,20,2 3,24,27,30,
	4th sem honours,paper core 10,political and Social philosophy,PHI-HC-4036	Unit 1	Rights and Duties,Justice, Equality,Liberty	18	2,3,4,5,6,7,12, 16,17,18,19,20 ,21,23,24,27,2 8,30,
	4th sem (R) GE 4,logic,PHI-HG-4046/PHI-RC-4046	Unit 3	Symbolic Logic-characteristics, uses of symbols,difference with traditional logic,modern classification of proposition	04	3,10,17,24,

	6th sem honours, Philosophy of Upanishads, PHI-HC-5016	Unit 1,2	Relation to Vedas,General social conditions,Theories of Creation-cosmic and acosmic	18	2,3,4,5,6,7,,12,16,17,18,19,20,21,23,24,27,28,30,
February	H.S.2nd Year	Unit 4	Ethics and Religion	07	4,6,11,13,18,20,25,27
	2nd sem honours	Unit 2	logical connectives,variables,truth table method	18	1,2,3,6,7,8,9,10,13,14,15,17,20,21,22,23,24,27,28
	4th sem honours	Unit 4	Anarchism, Socialism,Marxism	22	1,2,3,4,6,7,8,9,10,11,13,14,15,17,18,20,21,22,23,24,25,27,28
	4th sem (R)	Unit 4	Propositional logic,logical connectives	04	7,14,21,28
	6th sem(H)	Unit 3	Brahman-Absolute and World ground	22	1,2,3,4,6,7,8,9,10,11,13,14,15,17,18,20,21,22,23,24,25,27,28
March	2nd sem honours	Unit 3	Formal proof of validity,rules of inference	23	2,3,6,7,8,9,10,13,14,15,16,17,20,21,22,23,24,27,28,29,30,31
	4th sem honours	Unit 2,3	Mrxism,monarchy,theocracy	25	2,3,4,6,7,8,9,10,11,13,14,15,16,17,20,21,22,23,24,25,27,28,29,30,31
	4th sem (R)	Unit 3	Truth table	04	7,14,21,28

	6th (H)	Unit 3	method Brahman as cosmic and acosmic ideal	25	2,3,4,6,7,8,9,10,11,13,14,15,16,17,20,21,22,23,24,25,27,28,29,30,31
April	2nd sem honours	Unit 3	Rules of Replacement,construction offormal proof of validity	19	3,4,5,6,7,10,11,12,13,17,18,19,20,21,24,25,26,27,28
	4th sem honours	Unit 3	Democracy,theocracy	21	3,4,5,6,7,8,10,11,12,13,17,18,19,20,21,22,24,25,26,27,28,29
	4th sem (R)	Unit 4	symbolization of everyday language	04	4,11,18,25
	6th sem(H)	Unit 5	Individual destiny-soul	21	3,4,5,6,7,8,10,11,12,13,17,18,19,20,21,22,24,25,26,27,28,29
May	2nd sem honours	Unit 4	Predicate logic,singuler general proposition,quantification.	19	2,5,8,9,10,11,12,15,17,18,19,22,23,24,25,26,29,30,31
	4th sem honours	Unit 4/5	Humanism,Secularism,Multiculteralism	26	2,5,6,8,9,10,11,12,13,15,17,18,19,20,22,23,24,25,26,27,29,30,31
	4th sem (R)	Unit 3	Truth table method	03	29,23,30
	6th sem (H)	Unit 5	Karma and Samsara,Liberation	26	2,5,6,8,9,10,11,12,13,15,17,18,19,20,22,23,24,25,26,27,29,30,31
June	H.S.2nd Year	Unit 3	Hypothesis-definition, characteristics, kinds	08	3,5,10,12,17,19,24,26
	2nd sem	Unit 4	symbolization	21	1,2,5,6,7,8,9,1

	honours		ofuniversal and existential proposition		2,13,14,15,16, 19,20,21,22,23 ,26,27,28,29
	4th sem honours	Unit 4	Multiculturalis m	25	1,2,3,5,6,7,8,9, 10,12,13,14,15 ,16,17,19,20,2 1,22,23,24,26, 27,28,29
	4th sem (R)	Unit 3	testing validity by truth table method	04	6,13,20,27
	6th sem honours	Unit 5	liberation-Upanisadic concept	25	1,2,3,5,6,7,8,9, 10,12,13,14,15 ,16,17,19,20,2 1,22,23,2426,2 7,28,29

4/11/2022

Principal
M.C.College,Barpeta

Principal,
M.C. College,Barpeta

Suman Deka. 4/11/2022

Dr.Suman Deka
Assistant Professor & HOD
Department of Philosophy,
M.C.College,Barpeta

Format of Teaching Plan

MADHAB CHOUDHURY COLLEGE, BARPETA

Academic Session:: 2022-23
(Odd/Even Semester) Odd Semester

Name of the Teacher : MANAVEE BARDALAI
Designation : Associate Professor
Department : EDUCATION

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
H. SU 1st Year	Unit: 5 Memory, Attention and Interest	(a) Process, Types and Marks of good memory, Improvement of memory (b) Forgetting (c) Attention (d) determinants of attention	14	By 8th August and September 2022 (Excluding Sundays and Holidays)
	Unit: 6 Educational Statistics	(a) Use of statistics in Education and Psychology (b) Measures of Central tendency - Mean - Median - Mode	15	By 15 October and November (Excluding Sundays and holidays)
BA I Sem CBCS (HC)	Unit: 3 Paper: 1016 Curriculum	(a) Concept of Curriculum (b) Importance and types of curriculum (c) Principles of curriculum construction	12	By 8th August and September (Excluding Sundays and Holidays)

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Appro.)
		(d) Correlation of studies – Meaning, Types and importance (e) Co-curricular activities – Meaning, Types and importance	08	
HC	Unit: 4 Discipline and Freedom Paper: 1026 Unit: 3 Memory, Attention and Interest	(a) Concept of Free discipline (b) Maintenance of discipline in school (a) Memory – Meaning, nature and types (b) Economy of memorization (c) Forgetting – meaning and nature of Psychology (d) Attention – concept, characteristics, determinants and types (e) Interest – Meaning, relation between Attention and Interest (f) Role of Attention and Interest in learning	08 10 13	By 15th NOV, 2022 Except sundays and holiday By 25th NOV, 2022 By 23rd Sept, 2022 Except sundays and holiday

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx.)
BAT Sem (CBCS) Generic and Regular	Paper Edu-RC 1016 Unit: 3 (Psychology and Education)	(a) Meaning and nature of psychology (b) Relation between education and psychology (c) Educational psychology – Nature, scope, Methods (d) Importance of Educational psychology in Teaching-learning Process	12	By 8th August, 2022 By 10th Nov except Sundays and holiday,
BA III Sem (Hons) CBCS	Paper : 3016 (Development of Education in India) Unit: 1 Development of Indian Edu. The post independence period	(a) Edu. provisions of the Indian Constitution and their implementation. (b) University Education Commission 1948	12	By 23rd Sept, 2022 Except Sundays and
	Unit: 2 Development of Secondary Education in the Post-Independent period	(a) Dr. Tara chand committee – Major recommendation (b) Secondary Education Commission 1952-53	14	holidays

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
	Unit-3 Education Commission -1964-66	(a) Major recommendations of the Commission — National Objectives of Edu. - National patterns of Education - Text books	08	By 8th Nov, 2022
	Paper 3026 Educational Technology and Teaching methods Unit 5	(a) Lesson Plan - its meaning and importance (b) Types of Lessons (c) Herbartian steps of Lesson planning (d) Criteria of a good Lesson plan	09	By 16th Nov. 2022 Except Sundays and holidays
	Paper 3036	(e) Micro teaching Concept, characteristics, objectives, importance	09	
	BA III Sem (Regular) CBCS Paper 3016	of value edu. (b) Value edu at different stages (a) Meaning, objectives, steps of guidance (b) Need and Principles of guidance	12	By 10th Nov, 2022 Except Sundays and holidays

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
	Unit :1	(c) Types of guidance — (1) Educational, Vocational, Personal etc		By 16th Nov, 2022 to December Except Sunday and holiday
	Unit :2 Introduction to Counselling	(a) Meaning, Objectives and Scope of Counselling (b) Need, Principle and Types of counselling (c) Relation between Guidance and Counselling	08	
	Unit :3 Organization of Guidance Service	(a) Meaning, Need and principles of Organising guidance service (b) components of guidance and Counselling Service, Technique of counselling Service (c) Qualities of a good counsellor	09	"

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (April-)
BA 5th Sem Honours CBCS	Paper:- 5026 Guidance and Counselling Unit-1	(a) Meaning, Objectives, Scope of guidance (b) Need and principles of Guidance (c) Types of guidance	10	By 22nd NOV, 2022
	Unit-2 Introduction to Counselling	(a) Meaning, objectives and Scope of counselling (b) Need and principles of counselling (c) Types of counselling (d) Relation between guidance and counselling	12	to December Except Sundays and holidays
	Unit:3 Organization of Guidance Service	(a) Meaning of guidance Service (b) Need and Principles of guidance service (c) Components of guidance service	08	By December 2022

1 Class	2 Paper / Unit	3 Course contents	No of L to be deliver
BA 5th Sem Honours CBCS	Paper 504C DSE Honours Teacher Education in India. Unit : 1 Conceptual Framework and Historical Perspective of Teacher edu in India	(a) Teacher Education — concept, scope and aims and objectives (b) Need and significance of Teacher Edu in 21st century (c) Types of Teacher Education (d) Development of Teacher edu. in India (e) Shifting focus from Teacher ~~edu~~ Training to Teacher edu	15
	Unit : 2 Teacher edu for Different Levels of Education	(a) Preparation of Teacher for Pre-primary level of Education	10
	Unit : 3 Structure and organisations of Teacher Education	(a) Basic training centre (b) DIET (c) SCERT (d) NCERT (e) NCTE (f) NUEPA (g) Regional colleges	10

Date :.....

Signature of the teacher

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
BA 5th Sem (Hons)	Unit:4 Status of Teacher Edu in India	(a) Skill and competency based Teacher education, Flanders interaction analysis, Micro Teaching and SSST	10	By 12th Nov, 2022
		(b) NCFTE 2009		To
		(c) NCTE Regulations 2014		By December 2022
		(d) Present problems of Teacher Edu in India and its solutions (e) Quality assurance in Teacher Education and challenges		
	Unit:5 Quality and responsibility	(a) qualities and responsibility of a teacher (b) Teacher as a Facilitator, counsellor and	10	By December Except sundays and holidays

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
		practitioner - Researcher		By
		(c) Role and expectations of Teacher in 21st Century	10	December, 2022
		(d) Professional ethics and accountability of teachers		
BA 5th Sem (Regular) CBCS	Paper :- 5014 Extension Activities	(a) Meaning, characteristics and objectives of Extention activity.		
	Unit :- 1 Extention Activity	(b) Principles and importance of extention activities	10	By December 2022
		(c) Role of higher edcation in Extention activities		
BA 5th Sem (Regular)	Unit :- 2 Extension Methods and Strategies (Bharat Mission)	(a) Extension methods with reference to Home visit, discussion etc	08	By December 2022

1 Class	2 Paper / Unit	3 Course contents
		(b) Swachha Bharat Mission – its objectives and components

Date : 11/08/2022

Signature of the teacher 10/08/22

Format of Teaching Plan

MADHAB CHOUDHURY COLLEGE, BARPETA

Academic Session:: 2022-23
(Odd/Even Semester)

Name of the Teacher : NILIMA NATH.
Designation : ASSOCIATE PROFESSOR
Department : EDUCATION

1 Class & Paper	2 Title of the Chapter/Unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates (Approx)
B.A. 1st Semester (Hons) 1016	Unit – I Meaning and concept of Education 1016	• Meaning, nature and Scope of Education	03	8th August to 13/14th Nov. 2022 Except
		• Forms of Education – Formal, Informal and non-formal education and their agencies	06	
		• School and its functions, relationship between School and Society	06	Sundays & Holidays ..
		• Distance and open education with special reference to India	03	
		• Functions of Education	02	

Contd...

1 Class & Paper	2 Title of the chapter/Unit	3 Contents	4 Nos of lectures to be delivered	5 Dates (Approx)
B.A. I Semester (Hons) Paper: 102	Unit - 2 Learning and Motivation	◦ Learning - Meaning and nature	03	By 15th Nov. 2022 Except Sundays & Holidays
		◦ Theories of learning - connectionism, classical conditioning, operant conditioning and theory of Insightful Learning	10	
		◦ Laws of learning Law of readiness, Law of exercise, law of effect	03	
		◦ factors affecting learning	06	
		◦ Motivation - Meaning, role in Learning	05	
	Unit - 5 Laboratory Practical	◦ Recall and Recognition	04	By 25th Nov. 2022
		◦ Trial and Error learning	04	
		◦ Span of Attention	04	
B.A. 3rd Semester (Hons)	Unit : 1 Educational Technology	◦ Meaning and nature of educational Technology	03	By 23rd Sept. 2022 Except Sundays & Holidays
		◦ Components of Educl. Technology - Hardware, Software and system Approach	06	

Contd...

1	2	3	4	5
& per	Title of the chapter/Unit	Contents	No. of lectures to be delivered	Date (Approx)
A. rod Semester (Hons)	Unit – I	• Instructional Technology Difference between Edul. Technology and Instructional Technology; Programmed Instruction	10	By 8th Nov. 2022
3026	Unit – 4 Methods and Techniques of Teaching	• Teaching learning process – Meaning and Nature of Teaching and learning	06	By 16th Nov 2022 Except Sundays & Holiday
		• Criteria of good teaching	02	
		• Teaching Methods — lecture method, play way method, Activity Method, Discussion, Project method, Problem-solving Method	12	
		• Teaching techniques — devices of teaching — Means of Teaching, Narration, Illustration, Questioning	12	
B A. 3rd Semester (Hons) Paper: 3036	Unit : 4 Peace Education	• Meaning, definition and characteristics of peace	04	By 10th Nov. 2022 Except Sunday & Holiday
		• Importance of peace in human life	02	
		• Teachers' role in promoting peace	02	
		• concept, need and characteristics of Peace education	06	

Contd...

1	2	3	4	5
Class & paper	Title of the chapter/Unit	Contents	Nos. of lectures to be delivered	Dates (Approx)
B.A. Pred Semester (Hons) 3036	Unit : 1	• Curricular contents of Peace education at different levels – Primary Secondary and Higher education. • Strategies and Skills in promoting peace education. • Relevance of Peace education in national and International Context	03 03 04	By 22nd Nov 2022 Except Sundays & Holidays
B.A. V Semester (Hons) paper: 5016	Unit : 5 Laboratory Practical	• Jalk - Blot Test • Free association and controlled association Test • Personality Test for Introversion - Extroversion	04 04 04	By 15th Nov. 2022
Paper 5026	Unit – I Introduction to developmental Psychology	• Meaning, definition and nature and scope of developmental Psychology • Different Methods of studying developmental Psychology • Hereditary and other factors that affect Pre-natal development	06 03 03	By 15th Sept 2022 Except Sundays & Holiday

Contd...

	2	3	4	5
Class & Paper	Title of the chapter/ Unit	Contents	Nos. of lectures to be delivered	Dates Approx
B.A. V Semester (Hons) paper 5026		• Periods of pre-natal development	02	By 12th October 2022
		• Precautionary measures to be taken in pre-natal development	02	
	Unit-2 Infancy	• characteristics of infancy	02	By 22nd Nov. 2022 Except Sundays & Holidays
		• Different developmental aspects during infancy		
		— • physical development	02	
		• Cognitive development	02	
		• Motor development	02	
		• Language development	02	
		• Emotional development	02	
		• conditions that affect parental attitude towards infant	02	
		• Role of family in the devt. of infant	02	
	Unit-3 Childhood	• characteristics of childhood	02	By 10th Nov. 2022
		• Developmental tasks of childhood	03	
		• Emotional development in early and late childhood	04	

1 Class & Paper	2 Title of the chapter/unit	3 Contents	4 Nos. of lectures to be delivered	5 Dates Approx
B.A. V Semester (Hons) 5026	Unit : 3 childhood	• Influence of family and School in social and personality development in childhood	04	By 14th Nov. 2022
B.A. I Semester Regular Paper: 1016	Unit : 5 Sociology and Education	• concept and methods of Sociology, Educational Sociology Meaning, Nature, Scope and importance, Relation between education and Sociology	06 06	By 6th September 2022 Except Sundays & Holidays
		• Social Group – Meaning, Nature and classification	08	
		• Importance of primary and Secondary groups	06	
		• Concept of socialization, Education as a Sociatisation Process :	04	

Contd...

1	2	3	4	5
ass & Paper	Title of the chapter/Unit	Contents	Nos. of lectures to be delivered	Dates Approx
B.A. 3rd Semester (RC) Paper 3016	Unit : 1 Guidance needs of Students	• Guidance needs of students in relation to Home-centred and School-centred Problems	06	By 8th NOV. 2022 Except Sundays & Holiday
		• Group guidance and group counselling	04	
		• Guidance for CWSN	02	
		• School guidance clinic	04	
B.A. 3rd Semester (RC) Paper: 3014	Unit - II Personality development and Motivation as means for Effective public Speaking	• Concept and Nature of personality	02	By 18th NOV 2022 Except Sundays & Holiday
		• Types of personality - Extrovert and Introvert	02	
		• Traits of Personality needed for effective Public Speaking, openess to change, Agreeableness, Extroversion, Sociability, Emotional Stability, Liveliness, Reasoning, warmth	13	
		• Role of personality in Effective communication	05	
		• Concept of balanced Personality	05	

Contd....

1	2	3	4	5
Class & Paper	Title of the chapter/unit	Contents	Nos of lectures to be delivered	Dates Approx
B.A. 5th Semester (RC) Paper: 5026	Unit : 1 Introduction to developmental psychology	• Meaning, definitions, nature and Scope of developmental psychology	04	By 15th Nov. 2022 Except Sundays & Holidays
		• Different methods of studying developmental psychology	05	
		• Hereditary and other factors that affect pre-natal development	06	
		• Periods of pre-natal development	04	
		• characteristics of pre-natal development	02	
		• precautionary measures to be taken in pre-natal development	04	
	Unit -2 Infancy	• characteristics of Infancy	02	By 23rd Nov. 2022 Except Sundays & Holidays
		• Different developments - Ist aspects during infancy	03	
		- Language development	03	
		- physical development	03	
		- cognitive development	03	
		- Motor development	02	
		- Emotional development	03	
		• conditions that affect Parental attitude	04	

Contd...

1	2	3	4	5
Class & Paper	Title of the chapter/Unit	Contents	Nos of lectures to be delivered	Dates Approx
B.A. 5th Semester (RC)		• Towards the Infant • Role of family in development of Infants	05	
	Unit : 3 Childhood	• characteristics of childhood	02	By 28th Nov. 2022 Except Sunday & Holidays
		• Developmental tasks of childhood	04	
		- physical development & early and late childhood		
		• Emotional dvt. of early and late childhood	04	
		• Influence of family and school in social and personality development in childhood	04	

13/08/2022

Teaching Plan

MADHAB CHOUDHURY COLLEGE, BARPETA

Academic Session:: 2022-23

Name of Teacher	:	**Puspajyoti Ojah**
Designation	:	**Associate Professor**
Department	:	**Assamese**
Date	:	03.11.2022

TEACHING PLAN

MADHAB CHOUDHURY COLLEGE, BARPETA

Academic Session ::

Name of the teacher : PUSPAJYOTI OJAH

Designation : Associate Professor.

Department : Assamese.

1	2	3	4	5
Class	Title of the Chapter/Unit	Contents	Nos. of lectures to be delivered	Dates (Approximate)
TDC. 1st Sem (Hons)	① ASM-HC-1016 I- Unit. ② ASM-HC-1016 4th Unit.		13	Aug- 12, 26, Sept- 2, 9, 16, 23, Oct- 14, 21, 28. Nov- 4, 11, 18, 25
TDC 3rd Sem (Hons)	ASM-HC-3036 ① 3rd unit ② 4th Unit		25	Aug - 10, 11, 17, 18, 25, 26. Sept - 7, 8, 14, 15, 21, 22, 28, 29 Oct - 12, 13, 19, 20, 26, Nov. 2, 3, 9, 10, 16, 17.

1	2	3	4	5
3rd Sem জেনে. MIL	ASM-CC3016 প্ৰাচীন অসমীয়া সাহিত্য, চতুৰ্থ গোট	কথা-সাহিত্য অৰ্জুনৰ সংশয় যোগ; (কথা-গীতা) 'ৰামৰ বন-গমন' - ৰঘুনাথ মহন্ত	13	Aug-6,13, 20, 27. sept-3, 10, 17, 24. oct-15, 22, 29. Nov-12, 19.
5th Sem (Hons)	ASM-HC-5026 (1) অসমীয়া ব্যাকৰণ চতুৰ্থ গোট-	অসমীয়াৰ বাক্য-শ্ৰেণী বিভাজন, অসমীয়া বাক্য সাংগঠনিক বিশ্লেষণ, নিৰ্দিষ্ট আৰু বিশেষ, বাক্যৰ গঠনৰ নিয়ম	49	Aug-9, 10, 12, 13, 16, 17, 20, 23, 24, 27, 27. Sept-2, 3, 6, 7, 9, 10, 13, 14, 16, 20, 21, 23, 24. oct-11, 12, 14, 15, 19, 21, 22, 26, 28, 29. Nov-1, 2, 4, 5, 9, 11, 12, 15, 16, 18, 19, 22, 23, 25, 26.
-	(2) ASM-HE5036 শংকৰদেৱ চতুৰ্থ গোট-	মহাপুৰুষ শংকৰদেৱ বিৰচিত পাৰিজাত হৰণ নাট		
5th Sem GE & RE	ASM-RG/GE 5016 শংকৰদেৱ	শংকৰদেৱ পাৰিজাত হৰণ-নাট	11	Aug-8, 22. sept-5, 12, 19, 26. oct-17. Nov-7, 14, 21, 28.
5th Sem SEC	ASM-SEC-5014 আবৃত্তি কলা		12	Aug-12, 26. sept-9, 16, 23. Oct-14, 21, 28 Nov-4, 11, 18, 25.

1	2	3	4	5
2nd Sem (Hons)	ASM-HC-2026 সাহিত্য-সমালোচনা [illegible]	[illegible] (বিচিত্ৰ)	27	Jan. 20, 27. Feb. 3, 10, 17, 24 March-3, 10, 17, 24 31. April- 7, 21, 28 May - 5, 12, 19
4th sem (Hons)	ASM-HC-4036 অসমীয়া নাট্য-সাহিত্য (1) 1st Unit	(1) শংকৰদেৱৰ 'ৰুক্মিণীহৰণ' নাটৰ [illegible] (2) মাধৱদেৱৰ 'অৰ্জুনভঞ্জন' নাটৰ [illegible] (3) [illegible]	30	Jan.- 18, 19, 24. Feb- 1, 2, 8, 9, 15, 22, 23. March - 2, 8, 9, 15, 16, 22 23, 29, 30 April- 5, 6, 12. 13, 19, 20. 26, 27. May- 10, 11. 17, 18.
	ASM-HC-4036 - (2) 2nd unit	(1) [illegible] (2) [illegible] (3) [illegible]		

1	2	3	4	5
4th Sem MIL Regular	ASM-CC-4016 আধুনিক অসমীয়া সাহিত্য 3rd unit	① বেণুধৰ শৰ্মা- [illegible] ② [illegible]	16	Jan. 21, 28. Feb. 4, 11, 18, 25. March- 4, 11, 25. April- 1, 8, 22. 29. May- 6, 13, 20.
6th Sem (Hons)	ASM-HC-6016 ① অসমীয়া চুটিগল্প আৰু উপন্যাস 4th unit	উপন্যাস মামণি ৰয়ছম গোস্বামী: দঁতাল হাতীৰ উঁৱে খোৱা হাওদা	66	Jan. 17, 18, 20, 21 24, 27, 28, Feb. 1. 3, 4, 7 8 10, 11. 14, 15, 17, 18. 20 21. 24. 25 28.
	② ASM-HE-6036 লক্ষ্মীনাথ বেজবৰুৱা 3rd unit	আত্মজীৱনী লক্ষ্মীনাথ বেজবৰুৱাৰ (মোৰ জীৱন সোঁৱৰণ, প্ৰথম ভাগ)		March- 3, 4, 7. 8, 10, 11, 14, 15, 17. 21. 22, 24, 25. 28, 29. 31. April- 1, 4. 5, 7, 8. 11. 12, 18, 19 21. 22, 25, 26. 28. 29. May. 2, 5, 6, 9, 10, 12. 13, 17, 19. 20.

1	2	3	4	5
6th Sem RE/HE GE	ASM RE 6016 ছন্দ আৰু অলংকাৰ 3rd Unit	অলংকাৰ-সংজ্ঞা, অলংকাৰৰ প্ৰয়োজনীয়তা অলংকাৰৰ প্ৰকাৰ ভেদ	16	Jan- 23, 30 Feb- 6, 13, 20, 27, March- 6, 13, 20, 27. April- 3, 10, 17, 24. May- 8, 15,
6th Sem SEC	ASM-SE 6014 অসমীয়া-আখৰ-জোঁটনি 1st Unit	বৰ্ণাশুদ্ধিৰ কাৰণ: স্বৰধ্বনিগত বৰ্ণাশুদ্ধি, স্বৰধ্বনি আৰু আখৰৰ সম্পৰ্ক, স্বৰচিহ্ন	16.	Jan. 20, 27, Feb- 3, 10, 17, 24 March- 3, 10, 17, 24 April- 7, 21, 28. May- 5, 12, 19

Date: 9/1/2022 Signature Puspajyoti Ojah.

TEACHING PLAN, 2022-2023

Runu Swargiary

Assistant Professor

Department Of Zoology

Madhab Choudhury College, Barpeta

ODD SEMESTERS:

MADHAB CHOUDHURY COLLEGE, BARPETA		
TEACHING/ LESSION PLAN		
SESSION: 2022-23		
NAME OF THE TEACHER:	Runu Swargiary	
DEPARTMENT	Zoology	
DESIGNATION:	Assistant Professor	
COURSE:	B.Sc. 1st Semester (Honours)	
PAPER NAME:	Non-Chordates I: Protists to Pseudocoelomates	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.5
Unit 1: Protista,Parazoa and Metazoa General characteristics and classification of Protista, Study of Euglena, Amoeba and Paramoecium Life cycle and pathogenicity of *Plasmodium vivax*, and *Entamoeba histolytica* Locomotion and reproduction in Protista Practicals: 1.Study of whole mount of Euglena, Amoeba and Paramoecium. Binary fission and conjugation in Paramoecium	TENTATIVE DATES	8th August to 3rd November
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to learn about - - the general and classifying characteristics of protists. - the structure, locomotion and reproduction types found among the protists by studying the representative types. - able to relate the role of protists with human life styles. - able to know their pathogenic effects to human and other animals.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about the protists. - Explaining the topics with examples and diagrams during the class. - Making the class students participatory. - Adopting periodical assessment

2.Examination of pond water collected from different places for diversity in protista. 4. Study of specimens from Obelia to Madrepora		measures. -Systematically displayed the specimens for practical. - Teaching how to identify the specimens by minute observation of morphological characters.
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class. students are made to redraw and rewrite for perfection.

COURSE:	B.Sc 1st Semester (Honours)	
PAPER NAME:	Principles of Ecology	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-1026	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Unit 5: Applied Ecology Ecology in Wildlife Conservation and Management Practicals: Study of Phytoplankton and Zooplankton, Determination of P^H Report on visit to National Park/Biodiversity Park/Wildlife Sanctuary	TENTATIVE DATES	4th November to 20th November
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	Students are able to learn about- - the definitions of wildlife, causes of wildlife decline, its importance in the ecosystem and in human life, need of conservation and the management systems. - the identifying characteristics of Phytoplankton and Zooplankton and determination of P^H - experience the conservation status of wildlife in the National Park.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge if any on wildlife. - Explaining the topics with appropriate examples. - Making the class students participatory. - Adopting periodical assessment

		measures. - Systematically displayed the specimens for practical. - Teaching how to identify the specimens by minute observation of morphological characters. - Demonstrating the determination of P^H.
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class. Students are made to redraw and rewrite for perfection.

COURSE:	B.Sc 1st Semester (RE+GE)	
PAPER NAME:	Animal Diversity	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-RC-1016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.7
Unit 1: Kingdom Protista General characters and classification upto classes, Locomotory organelles and locomotion in protozoa. Unit 6: Phylum Annelida General characters and classification upto classes, Metamerism in Annelida Unit 12: Pisces General features and classification up to orders; Osmoregulation in Fishes Practical: 1. Study of specimens from Amoeba to Loris. 2. Study of permanent slides	TENTATIVE DATES	4th August to 20th November
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	Students are able to learn about - - the general and classifying characteristics of Protista, Annelida and Pisces. - the structure, locomotion and reproduction types found among the protists by studying the representative types. -the metamerism found in annelids. - the osmoregulatory processes found in fishes. - how to identify the species with their distinctive character study, enhancement of drawing ability. - developed teamwork culture and communication skills.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about the protists, annelids and fishes. - Explaining the topics with examples and diagrams during the class. - Making the class students participatory.

		- Adopting assessment measures. - Systematically displayed the specimens. - Teaching how to identify the specimens by minute observation of morphological characters.
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class. Students are made to redraw and rewrite for perfection.

COURSE:	B.Sc. 3rd Semester (Honours)	
PAPER NAME:	Diversity of Chordata	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.3
Unit 5: Pisces General characteristics of Chondrichthys and Osteichthys, Classification upto order, Migration, Osmoregulation and parental care in fishes. Unit 6: Amphibia Origin of Tetrapoda, General characters and classification upto order, Parental care in Amphibia. Practical: Study of specimens – Agnatha -Petromyzone, Myxine Fishes- Scoliodon to Flat fish Mounting of Weberian ossicles of fish.	TENTATIVE DATES	9th August to 31st October
	NUMBER OF CLASSES	28
	LEARNING OUTCOMES	Students are able to learn - - the general and classifying characteristics of Pisces and Amphibia - the migration, osmoregulation found in fishes, parental care in fishes and amphibians etc. - the identify the species with their distinctive character study, enhancement of drawing ability - able to dissect Weberian ossicles, learn the mounting procedures, - developed teamwork culture and communication skills.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about the fishes and amphibians. - Explaining the topics with examples and

		diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures. - Displaying the specimens systematically. - Demonstration of the dissecting and mounting procedure of Weberian ossicles of fish
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class. Students are made to redraw and rewrite for perfection.

COURSE:	B.Sc 3rd Semester (Honours)	
PAPER NAME:	Animal Physiology: Controlling and Coordination System	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-3026	
UNIT/ TOPIC	MARKS ASSIGNED:	1.2
Unit 4: Muscle Histology of different types of muscle; Ultra structure of skeletal muscle; Molecular and chemical basis of muscle contraction, Characteristics of muscle twitch, Motor unit, summation and tetanus. Practicals: Study of permanent slides	TENTATIVE DATES	1st November to 7th November
	NUMBER OF CLASSES	5
	LEARNING OUTCOMES	Students are able to learn about- -different types of muscle found in animals. - ultra structure of skeletal muscle and its physiology of contraction etc. - identification characteristics of the slides of mammalian skin, cartilage , bone, T.S of endocrine glands etc.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about muscles.

		- Explaining the topics with examples and diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class. Students are made to redraw and rewrite for perfection.

COURSE:	B.Sc 3rd Semester (Honours)	
PAPER NAME:	Fundamentals of Biochemistry	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-3036	
UNIT/ TOPIC	MARKS ASSIGNED:	0.8
Unit 2: Lipids Structure and significance, Physiologically important saturated and unsaturated fatty acids, Tri-acylglycerols, Phospholoipids, Glycolopids, Steroids.	TENTATIVE DATES	11th November to 20th November
	NUMBER OF CLASSES	3
	LEARNING OUTCOMES	Students are able to know about different types of Lipids and its importance in human health.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about lipids. - Explaining the topics elaborately with examples. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group

		discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class.

COURSE:	B.Sc. 3rd Semester (RE+GE)	
PAPER NAME:	Physiology and Biochemistry	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-RC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.3
Unit 1: Nerve and Muscle Ultra-structure of skeletal muscle, Molecular and chemical basis of muscle contraction. Unit 3: Respiration Pulmonary ventilation, Respiratory volumes and capacities, Transport of oxygen and carbon dioxide in blood. Practicals: Study of permanent histological sections Study of permanent slides	TENTATIVE DATES	1st August to 19th November
	NUMBER OF CLASSES	14
	LEARNING OUTCOMES	Students are able to know about - -ultrastructure of skeletal muscle . -molecular and chemical basis of muscle contraction. - respiratory process of human being.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about the nerves, muscles and respiration. - Explaining the topics with examples and diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Reference books, providing study materials in the Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class.

DESIGNATION:	Assistant Professor	
COURSE:	B.Sc. 3rd Semester (RE), **Skill Enhancement Courses**	
PAPER NAME:	Ornamental Fish and Fisheries	
PAPER CREDIT:	4 (T+P)	
PAPER CODE:	ZOO-SE-3014	
UNIT/ TOPIC	MARKS ASSIGNED:	1.6
1. Ornamental fish diversity of North East India 2. Aquarium plant diversity in the wetland of Assam 3. Construction and management of Home aquarium. 7. Health management of Ornamental fish. Practicals: 11.Identification of Ornamental fishes 13. Estimation of Physico-chemical characteristics of aquarium water	TENTATIVE DATES	17th August to 10th November
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to know about- - the definition and importance of ornamental fishes, their culture in the aquariums, health management etc. -the aquarium plant species diversity found the wetland of Assam . -constructing steps of home aquarium.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about the aquarium and ornamental fishes if any. - Explaining the topics with examples and diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures. - Displaying the fish specimens systematically.
	RESOURCE/ MATERIALS	Study materials, YouTube video links are provided in Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions,

		revision class.

COURSE:	B.Sc. 5th Semester (Honours)	
PAPER NAME:	Molecular Biology	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-5016	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Unit 1: Nucleic Acids Salient features of DNA and RNA, Watson and Crick model of DNA Practicals: 1.Study of Polytene Chromosome from Chironomous /Drosophila larvae	TENTATIVE DATES	8th August to 10th October
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to learn about- - the basic concepts of nucleic acids- DNA and RNA -the preparation of slide of Polytene Chromosome from Chironomous /Drosophila larvae.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about DNA and RNA. - Explaining the topics with diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	In assignments, presentation, group discussions, answer scripts,
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class.

COURSE:	B.Sc. 5th Semester (Honours)
PAPER NAME:	Principles of Genetics

PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-5026	
UNIT/ TOPIC	MARKS ASSIGNED:	0.8
Unit 4: Sex determination Chromosomal mechanisms of sex determination in Drosophila and man Practicals: Pedigree analysis of some human inherited traits	TENTATIVE DATES	22nd October to 5th November
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to learn about- - the Chromosomal mechanisms of sex determination in Drosophila and man - the importance of pedigree analysis of some human inherited traits.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about DNA and RNA. - Explaining the topics with diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class.

COURSE:	B.Sc. 5th Semester (Honours)
PAPER NAME:	Endocrinology
PAPER CREDIT:	4(T)+2(P)

PAPER CODE:	ZOO-HE-5036	
UNIT/ TOPIC	MARKS ASSIGNED:	
Unit 2: Epiphysis, Hypothalamo-hypophysial Axis Structure of pineal gland, Secretions and their functions in biological rhythm and reproduction. Structure of hypothalamus, Hypothelamic nuclei and their functions, Regulation of neuroendocrine glands, Feedback mechanisms. Practicals: 2.Study of the permanent slides of all the endocrine glands	TENTATIVE DATES	6th November to 19th November
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to learn about -the structure and functions of pineal gland -structure and functions of pituitary gland and their role in human physiology.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about pituitary gland and pineal glands. - Explaining the topics with diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Notes and study materials are provided in Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class.

COURSE:	B.Sc. 5th Semester **(DSE 2)**
PAPER NAME:	Applied Zoology

PAPER CREDIT:	4 (T)+2 (P)	
PAPER CODE:	ZOO-RE-5024	
UNIT/ TOPIC	MARKS ASSIGNED:	0.8
Unit 4: Parasitic Protozoa Life history and pathogenicity of *Entamoeba histolytica, Plasmodium vivax* and *Trypanosoma gambiense* Unit 10: Fish Technology Genetic improvements in aquaculture industry; Induced breeding and transportation of fish seed.	TENTATIVE DATES	3rd August to 30th October
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to learn about - - the protozoan parasites of human being and their pathogenicity. - the improvements of fish technology in fishery sector and its benefits.
	PLANNED ACTIVITIES	- Make students to recall their previous knowledge about protozoans and asked them if they have any knowledge about the use of fish technology in fish culture. - Explaining the topics with appropriate examples and diagrams during the class. - Making the class students participatory. - Adopting periodical assessment measures.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through class tests, presentation, group discussion and oral questions etc.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions, revision class.

EVEN SEMESTERS:

MADHAB CHOUDHURY COLLEGE, BARPETA		
TEACHING/ LESSION PLAN		
SESSION: 2022-23		
NAME OF THE TEACHER:	Runu Swargiary	
DEPARTMENT	Zoology	
DESIGNATION:	Assistant Professor	
COURSE:	B.Sc. 2nd Semester (Honours)	
PAPER NAME:	Non-Chordates II: Coelomates	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-2016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 1: Introduction to Coelomates Evolution of Coelom and metamerism Unit 2: Annelida General characteristics and classification upto classes, Excretion in Annelida Practicals: 1.Study of specimens – Annelids, Arthropods, Molluscs, Echinodermates	TENTATIVE DATES	1st February to 23rd March
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to learn about - - the coelomates, the general and classifying characteristics and excretion found in Annelida. - able to identify the species and slides with their distinctive character study, enhancement of drawing ability. - developed teamwork culture and communication skill
	PLANNED	- Make students to recall their previous knowledge

3. T.S through pharynx, gizzard and typhlosolar intestine of earthworm.	ACTIVITIES	about the Annelids. -Explaining the topics with examples and diagrams during the class. - Making the class students participatory. Adopting assessment measures and evaluation. -For practicals displaying specimens systematically. - -Teaching how to identify the specimens by minute observation of morphological characters.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 2nd Semester (Honours)	
PAPER NAME:	Cell Biology	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-2026	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Unit 4: Mitochondria and Peroxisomes Mitochondria: structure, Semi-autonomous nature, Endosymbiotic hypothesis, Mitochondrial respiratory chain, Chemi-osmotic hypothesis Peroxisomes	TENTATIVE DATES	25th March to 30th April
	NUMBER OF CLASSES	14
	LEARNING OUTCOMES	Students are able to know - -about the structures and functions of Mitochondria and Peroxisomes. -learn the preparation procedure of temporary slide to study cell division stages.
	PLANNED ACTIVITIES	-Make students to recall their previous knowledge about Mitochondria. -Explaining the topics with examples and diagrams during the class. -Making the class students participatory. Adopting

Practicals: 1. Preparation of temporary stained squash of onion root tip to study various stages of mitosis		assessment measures and evaluation. -Demonstrating the steps of temporary stained squash preparation of onion root tip.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 2nd Semester (RE+GE)	
PAPER NAME:	Comparative Anatomy and Developmental Biology of Vertebrates	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-RC-2016	
UNIT/ TOPIC	MARKS ASSIGNED:	2.5
Unit 2: Skeletal System Unit5: Circulatory System Practicals: 1.Osteology 2.Frog-Study of developmental stages.	TENTATIVE DATES	1st February to 30th April
	NUMBER OF CLASSES	14
	LEARNING OUTCOMES	Students are able to know about - - the skeletal system and circulatory systems. -able to identify and learn the characteristics of the bones and slides of developmental stages of frog.
	PLANNED ACTIVITIES	-Make students to recall their previous knowledge about the skeletal and circulatory systems. -Explaining the topics with examples and diagrams during the class. - Making the class students participatory. Adopting assessment measures and evaluation. -Displaying the bone specimens systematically. -Teaching how to identify the developmental stages of frog.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.

	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 4th Semester (Honours)	
PAPER NAME:	Anatomy of Vertebrates	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.4
Unit 4: Respiratory System Skin, gills, lungs and air sacs; Accessory respiratory organs. Unit 6: Urinogenital Systems Succession of Kidney, Evolution of urinogenital ducts, Types of mammalian uteri Practicals: 1. Study of placoid, cycloid and ctenoid scales through permanent slides/ photographs.	TENTATIVE DATES	1st February to 15th March
	NUMBER OF CLASSES	18
	LEARNING OUTCOMES	Students are able to learn about - the Skin, gills, lungs and air sacs. - accessory respiratory organs. - succession of Kidney. - evolution of urinogenital ducts. - types of mammalian uteri.
	PLANNED ACTIVITIES	-Make students to recall their previous knowledge about respiratory systems, urinogenital systems etc. -Explaining the topics with examples. -Making the class students participatory. -Adopting assessment measures and evaluation. - demonstrating the different types of scales.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 4th Semester (Honours)	
PAPER NAME:	Animal Physiology: Life sustaining Systems	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HC-4026	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Unit 3: Renal Physiology Structure of Kidney and its functional unit, Mechanism of urine formation, Regulation of water balance, Regulation of acid-base balance	TENTATIVE DATES	17th March to 20th April
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to learn about - the structure of Kidney and its functional unit - mechanism of urine formation, - regulation of water balance - regulation of acid-base balance
	PLANNED ACTIVITIES	-Make students to recall their previous knowledge about kidney and its functions. -Explaining the topics with examples. -Making the class students participatory. -Adopting assessment measures and evaluation.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 4th Semester (RE+GE)
PAPER NAME:	Genetics and Evolutionary Biology
PAPER CREDIT:	4(T)+2(P)

PAPER CODE:	ZOO-RC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	0.3
Unit 1: Introduction to Genetics Mendel's work on transmission of traits, Genetic Variation, Molecular basis of Genetic Information	TENTATIVE DATES	1st February to 20March
	NUMBER OF CLASSES	06
	LEARNING OUTCOMES	Students are able to learn the basic concepts of Mendelian experiments
	PLANNED ACTIVITIES	-Make students to recall their previous knowledge about genetics. - Explaining the topics with examples. -Making the class students participatory. -Adopting assessment measures and evaluation.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 6th Semester (Honours)	
PAPER NAME:	Fish and Fisheries	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-HE-6026	
UNIT/ TOPIC	MARKS ASSIGNED:	3
Unit 1: Introduction and Classification Unit 2: Morphology and Physiology Practicals: 1.Morphometric and	TENTATIVE DATES	3rd February to 20th April
	NUMBER OF CLASSES	35
	LEARNING OUTCOMES	Students are able to- -learn details about fish and its behaviours, its morphological structures physiological processes and reproductive strategies. -learn to study the identifying characters, induced

meristic characters of fishes. 2. Study of fishes from Petromyzon to Anabas. 3. Study of different types of scales. 7. Demonstration of induced breeding in fishes (video) 8. Demonstration of parental care in fishes (video).		breeding procedures and parental care found in fishes from the practical classes.
	PLANNED ACTIVITIES	Make students to recall their previous knowledge about fish and its morphology. Explaining the topics with examples. Making the class students participatory. Adopting assessment measures and evaluation. Demonstrating the practical with appropriate specimens/examples.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

COURSE:	B.Sc. 6th Semester (RE+GE)	
PAPER NAME:	DCE 3: Aquatic Biology	
PAPER CREDIT:	4(T)+2(P)	
PAPER CODE:	ZOO-RE-6016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 2: Freshwater Biology Streams: Adaptation of hill-stream fishes Unit4: Management of Aquatic Resources Causes of pollution: Agricultural, Industrial, Sewage, Thermal and Oil spills, Eutrophication, Sewage treatment, Water quality	TENTATIVE DATES	1st February to 13th April
	NUMBER OF CLASSES	12
	LEARNING OUTCOMES	Students are able to learn about - -hill stream environment and adaptation of hill stream fishes. - the causes of water pollution their effects, controlling measures and management procedures. - able to relate the environmental pollution to human health.
	PLANNED ACTIVITIES	-Make students to recall their previous knowledge about pollution and aquatic

assessment-BOD and COD. Practicals: 2. Identify the macrophytes, phytoplanktons and zooplanktons present in apond/Beel water system. 5. A project report on Visit to a Sewage treatment plant/Marine bioreserve/Fisheries institute.		resources. -Explaining the topics with examples. Making the class students participatory. -Adopting assessment measures and evaluation. - Collecting water from the pond and identify the macrophytes, phytoplanktons and zooplanktons.
	RESOURCE/ MATERIALS	Study materials are provided in Google Classroom.
	ASSESMENT	Through tests, group discussions and oral questions.
	REFLECTION	In assignments, group discussions, answer scripts.
	ACTION TAKEN	Engaging students in thinking abilities, question analysis, interactive discussions after course completion, revision class, related the contents of the topic with real life situations.

TEACHING PLAN

DR. JAYDEV MANDAL
ASSISTANT PROFESSOR
DEPARTMENT OF ZOOLOGY
MADHAB CHOUDHURY COLLEGE, BARPETA

SESSION: 2022 – 2023

ODD SEMESTERS

MADHAB CHOUDHURY COLLEGE, BARPETA		
TEACHING/ LESSION PLAN		
SESSION: 2023-24		
NAME OF THE TEACHER:	**Dr Jaydev Mandal**	
DEPARTMENT	Zoology	
DESIGNATION:	Assistant Professor	
COURSE :	FYUGP 1st Semester	
PAPER NAME:	DIVERSITY OF NON-CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-1011	
UNIT/ TOPIC	MARKS ASSIGNED:	1.5
Unit 2: Evolution of coelom and metamerism **Unit 3:** General characteristics and Classification up to class of Mollusca General characteristics and Classification up to class of Echinodermata Water vascular system of Echinodermata **PRACTICAL** 1. Study of larval forms of Echinodermata 2. Study of museum specimens of Echinodermata	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	11×3=33 (Core 1, Core 2, Core 3)
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Meaning, types and significance of coelom and their evolutionary throries proposed time to time. 2. Meaning, types and significance of metamerism and their evolutionary throries proposed time to time. 3. Identification and classification of different organisms from phylum Mollusca and Echinodermata 4. Meaning, structure and function of water vascular system in different classes of Echinodermata
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory class Periodical assessment Interaction among students through peer teaching, group discussion, outdoor classes etc.

	RESOURCE/ MATERIALS	Study materials, text book and reference books
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	Students approaching with different photos and information of the related species
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

VAC (ENVIRONMENTAL ETHICS AND FOREST ECOLOGY)

COURSE :	FYUGP 1st Semester	
PAPER NAME:	ENVIRONMENTAL ETHICS AND FOREST ECOLOGY	
PAPER CREDIT:	Credit: 2	
PAPER CODE:	Code: VAC-1	
UNIT/ TOPIC	MARKS ASSIGNED:	0.4
Unit-2: Ecology and Environmental Sustainability 1. Defination and Scope of Ecology 2. Ecological levels of Organization 3. Importance of Ecological Principles for Environmental Sustainability 4. Understanding Environmental Impact Assessment (EIA) 5. EIA Process and its Role in Green Practices 6. Case Studies of Successful and Unsuccessful EIAs 7. Green Ethics and Individual Actions:	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	4×2=8 (Group A, and group B)
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Meaning/defination, scopes of ecology and environment 2. Levels of organization in ecology 3. Importance of ecological principles for sustainability 4. Meaning and methods in EIA 5. Role of EIA for consrtictive purposes 6. Case studies on EIAs of the state and country 7. Green ethics: dos and don'ts 8. Our role towards green practices and carbon footprints

Ethics of Environmental Stewardship 8. Role of Individuals in promoting Green Practices 9. Action for a Sustainable Future		9. Using the natural resources sustainabily
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion, field study etc.
	RESOURCE/ MATERIALS	Study materials, reference books
	ASSESMENT	Group discussion, field study, outdoor classes, assignments, report writing
	REFLECTION	Students' curiosity towards environmental and ecological aspects
	ACTION TAKEN	Question analysis, simplified topics and ecological and environmental terms giving day to day life examples, direct interaction with slow learner

MDC-5(1) BASICS IN LIFE SCIENCE

COURSE :	FYUGP 1st Semester	
PAPER NAME:	BASICS IN LIFE SCIENCE	
PAPER CREDIT:	Credit: 3	
PAPER CODE:	Code: -MDC5 (1)	
UNIT/ TOPIC	MARKS ASSIGNED:	0.4
Unit 3: Basics in Economic Zoology Apiculture: 1. General Morphology and Behaviour of Honey Bee 2. Importance and History of Honey Bee Culture in NE India 3. Diversity and Major Types of Economically Important Honey Bees in NE India	TENTATIVE DATES	01/08/23 – 22/11/23
	NUMBER OF CLASSES	4
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Structure and morphology of honey bees 2. Importance of bee keeping in northeast India 3. Diversity and biology of honey bees reared in NE India 4. Selection of honey bee species of

4. Selection of Honey Bees for Apiculture 5. Artifical Bee Rearing (Newton and Langstroth Box)		apiculture 5. Rearing of honey bee artifically in beehives/beeboxes
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, short notes
	ASSESMENT	Class test, quiz, group discussion
	REFLECTION	Students are keen to know about different hymenoptera
	ACTION TAKEN	Question analysis, direct interaction with slow learner, practical demonstration

AEC APICULTURE (SKILL ENHANCEMENT COURSE)

COURSE :	FYUGP 1st Semester (Skill Enhancement Course)	
PAPER NAME:	Apiculture	
PAPER CREDIT:	Credit: 2 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 1: Biology of Bees, Diseases and Enemies Types and Biology of Honey Bees, Social Organization of Bee Colony, Bee Diseases and Enemies, Control and Preventive measures **Unit 2:** Rearing of Bees Artificial Bee rearing (Apiary), Beehives – Newton	TENTATIVE DATES	26/08/23- 10/11/23
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Different types of honey bees found/reared in India 2. Different types enemies and diseases of honey bees and their preventive measures 3. Biology and types of honey bees 4. Social organization (castes) with

	CLASSES	
2. Affinities of Sphenodon 3. Poison apparatus and Biting mechanism in snakes **Unit 8: Aves** 1. General characteristics and classification up to order *Archaeopteryx* a connecting link 2. Principles and aerodynamics of flight 3. Flight adaptations and Migration in birds **Unit 9: Mammals** 1. General characters and classification up to order 2. Affinities of Prototheria 3. Adaptive radiation with reference to locomotory appendages **Unit 10: Zoogeography** 1. Zoo geographical realms 2. Theories pertaining to distribution of animals 3. Plate tectonic and Continental drift theory, distribution of vertebrates in different realms **PRACTICAL** **Reptilia** 1. *Chelone, Trionyx, Hemidactylus, Varanus, Uromastix, Chamaeleon, Ophiosaurus,*	LEARNING OUTCOMES	Students are able to comprehend about the 1. Characteristics and Classification of the class Reptilia 2. Exceptions of some organisms and their affinities with other group of organisms 3. Identification of poisonous and non-poisonous snakes 4. Bitting mechanism of snakes and prevention and first aid once bitten 5. Characteristics and Classification of the class Aves 6. Connecting links and idea of the species occured during jurassic period 7. Aerodynamics of flight and how modern jets are designed based on birds 8. Various flight adaptations (morphological, physiological and anatomial) in birds 9. Bird migration, migratory flyways, migration types and patterns 10. Characteristics and Classification of the class Mammalia 11. Affinities and characteristics of Prototheria (egg laying mammals) 12. Meaning of adaptive radiation, types and examples in today's world 13. Knowledge of different zoogeographical realms of the world 14. Understand the differnt theories related to distribution of mordern aminals 15. Role of geology and tectonic plates

Draco, Bungarus, Vipera, Naja, Hydrophis, Zamenis, Crocodylus 2. Key for Identification of poisonous and non-poisonous snakes **Aves** 1. Study of six common birds from different orders. Types of beaks and claws		in animal distribution
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference books, short notes
	ASSESMENT	Class test, presentation, group discussion, assignments
	REFLECTION	Students are curious to know about different animal group identification and distribution
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	ANIMAL PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-3026	
UNIT/ TOPIC	MARKS ASSIGNED:	1
Unit 6: 1. Regulation of hormone secretion 2. Mode of hormone action 3. Signal transduction pathways for steroidal and non-steroidal hormones 4. Hypothalamus (neuroendocrine gland)-principal nuclei involved in neuro endocrine control of anterior pituitary and endocrines system	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Regulation or feedback (both positive and negative) control of hormones in human body with different examples of hormones 2. Mode of different hormone action such as protein and steroid hormones 3. How signals are passed for stroid and non-stroid hormones in our body 4. Role of hypothalamus in controlling different endocrine glands including the

5. Placental hormones		pituitary gland 5. Different hormones secreted by human placenta and their functions
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference books, short notes
	ASSESMENT	Class test, presentation, group discussion, poster preparation
	REFLECTION	Students are keen to know the drawbacks and hormonal imbalance
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (hons)	
PAPER NAME:	FUNDAMENTALS OF BIOCHEMISTRY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-3036	
UNIT/ TOPIC	MARKS ASSIGNED:	0.2
Unit 3: Proteins 1. Bonds stabilizing protein structure 2. Levels of organization in proteins 3. Denaturation of proteins 4. Introduction to simple and conjugate proteins	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	4
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Structure and functions of protein 2. Different types of bonds and their formation for complex structure of proteins 3. Levels of organization of different proteins 4. Denaturation of proteins based of different factors 5. Introduction to simple and conjugate proteins

	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 3rd Semester (regular)	
PAPER NAME:	PHYSIOLOGY AND BIOCHEMISTRY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HG/RC-3016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 2: Digestion 1. Physiology of digestion in the alimentary canal 2. Absorption of carbohydrates, proteins, lipids **Unit 9: Protein Metabolism** 1. Transamination, Deamination and Urea Cycle	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Structure and function of the digestive system and the alimentary canal of human 2. Role of different associated glands and their fuction in food breakdon 3. Absorption of carbohydrates, proteins, lipids after digention in our body 4. Meaning and function of Transamination, Deamination and Urea Cycle
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment

		Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference book, short notes, simplified topics
	ASSESMENT	Class test, presentation, group discussion, chart preparation
	REFLECTION	Students are keen to know about different food and their role in bodybuilding and energy providing
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

SEC (ORNAMENTAL FISH AND FISHERIES)

COURSE :	B.Sc. 3rd Semester SEC	
PAPER NAME:	Ornamental Fish and Fisheries	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-SE-3014	
UNIT/ TOPIC	MARKS ASSIGNED:	2
THEORY 1. Strategies for maintenance of natural colour of Ornamental Fish 2. Natural Breeding of Tricogaster species 3. Development of Biological filtration in Aquarium 4. Pure culture of planktons **PRACTICAL** 1. Culture of Indigenous ornamental fish in Aquarium 2. Biological filter for removal of Ammonia from Aquarium 3. Culture of Planktons	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Ways and strategies for maintenance of natural colour of Ornamental Fish for aquarium purposes 2. Breeding of indigeneous ornamentl fish 3. Importance of biological filteration in aquarium 4. Culture of planktons (both zooplankton and phytoplankton) 5. Documentation and report writing on visiting a field study site
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class

FIELD VISIT Preparation of field visit report to a fish museum/farm		Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference book, short notes, simplified topics
	ASSESMENT	Class test, presentation, group discussion, chart preparation
	REFLECTION	Students are keen to know about different food and their role in bodybuilding and energy providing
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	MOLECULAR BIOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-5016	
UNIT/ TOPIC	MARKS ASSIGNED:	0.3
Unit 2: DNA Replication 1. DNA Replication in prokaryotes and eukaryotes 2. Mechanism of DNA replication 3. Semi-conservative, bidirectional and semi-discontinuous replication 4. RNA priming 5. Replication of circular and linear ds-DNA 6. replication of telomeres	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	06
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Ways of DNA Replication in prokaryotes and eukaryotes 2. Mechanism of DNA replication and roles and functions of different enzymes involved in the process 3. Semi-conservative nature of DNA molecule, bidirectional and semi-discontinuous replication, okazaki fragments 4. Meaning and types of RNA priming 5. Differences in the replication of circular and linear DNA 6. Mechanism of replication of

		telomeres
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference book, short notes, simplified demonstration, animated documentaries
	ASSESMENT	Class test, presentation, group discussion, poster preparation
	REFLECTION	Students are keen to know more about the mtDNA ancestry and evolution
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (hons)	
PAPER NAME:	PRINCIPLES OF GENETICS	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-5026	
UNIT/ TOPIC	MARKS ASSIGNED:	1.2
Unit 2: Linkage, Crossing Over and Chromosomal Mapping 1. Linkage and crossing over 2. Cytological basis of crossing over 3. Molecular mechanisms of crossing over including models of recombination 4. Recombination frequency as a measure of linkage intensity 5. Two factor and three factor crosses 6. Interference and	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Defination and meaning of Linkage and crossing over 2. Cytological basis and molecular mechanisms of crossing over including models of recombination 3. Defination and meaning as well as function of recombination frequency, linkage intensity, cromosome mapping 4. Defination, types and functions of two factor and three factor crosses with examples

coincidence 7. Somatic cell hybridization.		5. Defination, types and functions of Somatic cell hybridization in animals with examples
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference book, animated demonstration
	ASSESMENT	Class test, presentation, group discussion, quiz
	REFLECTION	Students are keen to know more about the recombination, crossing over and cell hybridization
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 5th Semester (regular)	
PAPER NAME:	APPLIED ZOOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-RE-5026	
UNIT/ TOPIC	MARKS ASSIGNED:	0.8
Unit 3: Rickettsiae and Spirochaetes 1. Brief account of *Rickettsia prowazekii, Borreliare currentisand Treponema pallidum* **PRACTICAL** Study of Plasmodium vivax, Entamoeba histolytica, Trypanosoma gambiense, Ancylostoma duodenale and Wuchereria bancrofti and their life stages through permanent slides/photomicrographs or specimens.	TENTATIVE DATES	01/08/23 – 25/11/23
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Different vector borne and zoonotic diseases 2. Causative agent, symptomes, preventive measures and control of *Rickettsia prowazekii, Borreliare currentisand Treponema pallidum* 3. Study of *Plasmodium vivax, Entamoeba histolytica, Trypanosoma gambiense, Ancylostoma duodenale and Wuchereria bancrofti* and their life

		stages through permanent slides/photomicrographs or specimens.
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

EVEN SEMESTERS

COURSE :	FYUGP 2ND SEMESTER	
PAPER NAME:	DIVERSITY OF CHORDATES	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-1021	
UNIT/ TOPIC	MARKS ASSIGNED:	2.5
Unit 2: General characteristics of Hemichordata, Urochordata and Cephalochordata Study of larval forms of protochordates. **Unit 3:** Biting mechanism in snakes; Archaeopteryx as a connecting link; Flight adaptation in birds; Affinities in Prototheria. **PRACTICAL** 1. Identification of venomous and non-venomous snakes	TENTATIVE DATES	01/02/24-15/05/24
	NUMBER OF CLASSES	10×3=30
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Have an clear idea about the general characteristics of classification Hemichordata, Urochordata and Cephalochordata 2. Will have an idea of different larval forms of protochordates 3. Bitting mechanism of snakes and prevention and first aid once bitten

		4. Connecting links and idea of the species occured during jurassic period 7. Aerodynamics of flight and how modern jets are designed based on birds 8. Various flight adaptations (morphological, physiological and anatomial) in birds 9. Affinities of Prototheria
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	COMPARATIVE ANATOMY OF VERTEBRATES	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	2
Unit 3: Digestive System 1. Alimentary canal and associated glands, dentition **Unit 8: Sense Organs** 2. Classification of receptors Brief account of visual and auditory receptors in man **PRACTICAL**	TENTATIVE DATES	01/02/24-15/05/24
	NUMBER OF CLASSES	20
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Structure and function of Alimentary canal and associated glands, 2. Dentition formula in their importance in species identificaton

1. Study of structure of any two organs (heart, lung, kidney, eye and ear) from video recording **PROJECT** 1. Project on skeletal modifications in vertebrates		3. Classification of different types of receptors in humans 4. Brief account of visual and auditory receptors in man
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference books, short notes
	ASSESMENT	Class test, presentation, group discussion, assignments
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (hons)	
PAPER NAME:	BIOCHEMISTRY OF METABOLIC PROCESS	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-HC-4036	
UNIT/ TOPIC	MARKS ASSIGNED:	0.5
Unit 5: Oxidative Phosphorylation 1. Redox systems 2. Review of mitochondrial respiratory chain 3. Inhibitors and un-couplers of Electron Transport System	TENTATIVE DATES	01/02/24-15/05/24
	NUMBER OF CLASSES	10
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Role of redox systems and their mechanism 2. Review of mitochondrial respiratory chain and their mechanism 3. Inhibitors and un-couplers of Electron Transport System
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment

		Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference books, short notes
	ASSESMENT	Class test, presentation, group discussion, assignments, peer teaching
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 4th Semester (regular)	
PAPER NAME:	GENETICS AND EVOLUTIONARY BIOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HG/RC-4016	
UNIT/ TOPIC	MARKS ASSIGNED:	1.8
Unit 3: Linkage, Crossing Over and Chromosomal Mapping 1. Linkage and crossing over 2. Recombination frequency as a measure of linkage intensity 3. Two factor and three factor crosses 4. Interference and coincidence 5. Somatic cell genetics – an alternative approach to gene mapping	TENTATIVE DATES	01/02/24-15/05/24
	NUMBER OF CLASSES	15
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Defination and meaning of Linkage and crossing over 2. Cytological basis and molecular mechanisms of crossing over including models of recombination 3. Defination and meaning as well as function of recombination frequency, linkage intensity, cromosome mapping 4. Defination, types and functions of two factor and three factor crosses with examples 5. Defination, types and functions of Somatic cell hybridization in animals with examples
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer

		teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference books, short notes
	ASSESMENT	Class test, presentation, group discussion, assignments
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

COURSE :	B.Sc. 6th Semester (hons)	
PAPER NAME:	EVOLUTIONARY BIOLOGY	
PAPER CREDIT:	Credit: 4 (T) + 2 (P)	
PAPER CODE:	Code: ZOO-HC-6026	
UNIT/ TOPIC	MARKS ASSIGNED:	4
Unit4: Sources of variations: Heritable variations and their role in evolution **Unit5: Population genetics:** Hardy-Weinberg Law (statement and derivation of equation, application of law to human Population); Evolutionary forces upsetting H-W equilibrium; Natural selection (concept of fitness, selection coefficient, derivation of one unit of selection for a dominant allele, genetic load, mechanism of working, types of selection, density-dependent selection, heterozygous superiority, kin selection, adaptive resemblances, sexual selection. Genetic Drift (mechanism, founder's effect, bottleneck	TENTATIVE DATES	01/02/24-15/05/24
	NUMBER OF CLASSES	30
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Heritable variations and their role in evolution of different species 2. Defination, formula, implecation and applications of Hardy-Weinberg Law 3. Concept of fitness, selection coefficient etc 4. Will learn and have an idea of the mechanisms of Genetic Drift (mechanism, founder's effect, bottleneck phenomenon; Role of Migration and Mutation in changing allele frequencies
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer

phenomenon; Role of Migration and Mutation in changing allele frequencies **Unit6: Product of evolution:** Micro evolutionary changes (inter-population variations, clines, races, Species concept, Isolating mechanisms, modes of speciation—allopatric, sympatric, Adaptive radiation / macroevolution (exemplified by Galapagos finches		teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials, reference books, short notes
	ASSESMENT	Class test, presentation, group discussion, chart preparation, assignments
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner

SEC (WILDLIFE PHOTOGRAPHY AND ECOTOURISM)

COURSE :	B.Sc. 6th Semester (Regular)	
PAPER NAME:	Wildlife Photography and Ecotourism	
PAPER CREDIT:	Credit: 3 (T) + 1 (P)	
PAPER CODE:	Code: ZOO-SE-6014	
UNIT/ TOPIC	MARKS ASSIGNED:	4
THEORY Introduction to Photography Still & Video Photography To develop expertise in Photography Field trips for photography in different periods (Light and Dark),seasons and places (Wetlands, Wildlife sanctuaries, National parks, Industrial sites) Methods of documentation **PRACTICAL** Submission of Photography Preparation of Poster and	TENTATIVE DATES	22/01/24-15/05/24
	NUMBER OF CLASSES	40
	LEARNING OUTCOMES	Students are able to comprehend about the 1. Introduction to Photography 2. Still & Video Photography 3. To develop expertise in Photography 4. Field trips for photography in different periods (Light and Dark),seasons and places (Wetlands, Wildlife sanctuaries,

Calendar		National parks, Industrial sites) 5. Methods of documentation
	PLANNED ACTIVITIES	Explaining the topics with diagram Participatory Class Periodical assessment Interaction among students through peer teaching, group discussion etc.
	RESOURCE/ MATERIALS	Study materials in google classroom, reference book
	ASSESMENT	Class test, presentation, group discussion, chart preparation
	REFLECTION	
	ACTION TAKEN	Remedial class, question analysis, direct interaction with slow learner