

Summary of Lesson/Teaching Plan

First Term : 1.07.2021 to 30.11.2021

Name of Teacher: Dr. Kakasaheb .S.Raut

Subject.: Zoology

Class : B.Sc.III (Fifth Semester)

Sr. No.	Class	Name of Asstt. Prof.	Subject	Theory Papers	Practical papers
1	B.Sc. I	Dr.Kakasaheb S.Raut	Zoology	General Zoology-I,U-Zoo-158	Lab.Course-II
2	B.Sc II			Geenetics VI	Lab course V
3	B.Sc. III			Applied Zoology I– IX Course code –, U-ZOO-580	Lab.CourseXII
4	M.Sc I			Structure and Function in Invertebrates	Lab.Course
5	M.Sc II			Animal behaviour and Applied Zoology	Lab.Course

First Term : 1.07.2021 to 30.11.2021

Name of Teacher: Dr.Kakasaheb S.Raut

Sub: Zoology-I

Class : B.Sc. I (First Semester)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	General Zoology-I, U-ZOO -158.	Unit –I General characters and Classification up to class level of each phylum) i) Phylum Protozoa -life cycle of plasmodium ii) Phylum Porifera iii) Phylum Coelenterate and Helminthes iv) Phylum Annelida -Type study of leech	01 July 21 To 29.July.20 21	05 02 02 04	Classroom Seminar	Assignment on Unit no.I [Any three Points] 30. 07.2021
2		Unit –II i) Phylum Arthropoda ii) Phylum Mollusca and Echinodermata iii) Protochordata:- a) Subphylum Hemichordata b) Subphylum Urochordata, Retrogressive metamorphosis c) Subphylum Cephalochordates.	1 Aug.2018 to .30 Aug.2018	03 03 03 03 03	--	Surprised Test (20 Aug-18 to 25 Aug-2021)
3.		Unit –III i) Basic charecterstistics of chordates. ii) Agnatha-Cyclostomata iii) Pisces iv) Dipnoi v) Amphibian and Reptelia-Identification of Poisonous and Non-Poisonous Snakes vi) Aves and Mammalia-Prototheria, Metatheria and Eutheria	02 Sept 21 to 30 Sept2018	02 05 02 01	--	Assignment on Unit no.II [Any three Points] 27. 09.2021
4.		Unit-IV Type study: Rat i) Morphology ii) Digestive system iii) Respiratory system iv) Circulatory, Brain and Reproductive system v) Sense organs: - Ear and Eye.	1 Oct -18 to 30 Oct 20 18	03 02 03	Classroom Seminar	Assignment on Unit no.III 3. 11.2021

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Dr.K.S.Raut

(Teacher in charge)

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Principal

First Term : 1.07.2021 to 30.11.2021

Name of Teacher: Dr.Kakasaheb S.Raut

Sub: Zoology-Genetics -VI

Class : B.Sc. II (Third Semester)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	General Zoology-I, U-ZOO -364.	Unit –I Mendelian Genetics and Modifications i) Mendelism ii) Monohybrid cross and Dihybrid cross iii) Interaction of gene (9:3:4, 9:7, 13:3, 15:1) iv) Incomplete dominance. v) Back cross and test cross.	05 July 21 To 04 Aug. 20 21	05 02 02 02 02	Classroom Seminar	
2		Unit –II –Mulyiple allelec and Multiple allele . i) Multiple alleles – Eg. Coat colour in Rabbit .and ABO Blood groups in Man. ii) Rh factor and Erythroblastosis foetalis in man. iii) Multiple genes - Eg. Skin colour in Man. iv) Linkage – definition, Types and significance v) Crossing over	5 Aug. 2021 to .04 Sept 2021	03 03 02 02 02	--	Assignment on Unit no.I [Any three Points] 30. 08.2021
3.		Unit –III Sex determination and Sex linked inht. i) Chromosomal methods of sex determination. ii) Bridge’s ratio theory of genic balance. iii) Sex linked inheritance in Drosophila. iv) Sex linked inheritance in man – colorblindness, haemophilia, Hypertrichosis and baldness. v) hromosomal Mutations – Structural and numerical mutations vi) Mutagenic agents vii) sickle cell anemia.	05 Sept 21 to 05 Oct. 2021	02 05 02 01 02	--	Surprised Test (20 Aug-18 to 25 Aug-2021)

4.		Unit-IV –Human Genetics i) Syndromes – Turner’s, Klinefelter’s, Down’s, Cat – Cry, Patau’s, and Edwards. ii) Inborn errors of metabolism – Phenylketonuria (PKU), Alkaptonura, Albinism. iii) Human Pedigree analysis with Symbols used iii) Eugenics, iv) Euphenics	06 Oct -21 to 06 Nov 20 21	03 02 03 02 01	Classroom Seminar	Assignment on Unit no.III 3. 11.2021
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First Term : 1.07.2021 to 30.11.2021
B,Sc III Semester V

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Applied Zoology IX ,[Course Code U-ZOO-580-A]	Unit I: Sericulture <ul style="list-style-type: none"> • Characteristic of sericulture industries and its scope • Types of silk moth /worms (Scientific names), host plants. • Life history and rearing of <i>Bombyxmori</i>, harvesting, and processing of cocoon, reeling and extraction of silk. • Research and development of sericulture in India 	5 July to 5 Aug 2021	02 02 02 02 02 02	Classroom Seminar	Assignment on Unit I , [Any Three Points] 14.07.2021
2		Unit II: Apiculture <ul style="list-style-type: none"> • Development of Apiary in India. • Types of Honey bees, • Modern development of apiary management, products and its uses. Problems and prospects	6Aug-2120 to 6 Sept 2021	02 02 02 02 03	----	Class Test (16 Aug.2021)
3.		Unit-III : Lac culture <ul style="list-style-type: none"> • Lac insects, Composition of Lac. • Strains of lac Insect • Cultivation of lac, • Lac host plants, • Processing of Lac and Uses. 	6 Sept.-2021 to 6Oct 2021	02 02 02 02	Classroom Seminar	Assignment on Unit II , [Any Three Points] 18 Sept.2021
4.		Unit-IV: Unit: 4. Poultry culture <ul style="list-style-type: none"> • Types of Breeds • Rearing and • Disease management • Importance of poultry. 	6 OCT -2021 To 6 .Nov .2021	02 02 01 01	Classroom Seminar	---



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Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous) ,Structured Work Plan for Teaching
(01 Jan.2021 – to 10 July 2021)

1. Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Theory Papers	Practical papers
1	B.Sc. I	Dr.Kakasaheb S.Raut	Zoology	Histology and Histochemistry-IV,U-Zoo-258	Lab.Course-II
2	B.Sc. III			Applied Zoology –X Course code –, U-ZOO-680	Lab.CourseXII
3	M.Sc I			Structure and Function in Invertebrates	
4	M.Sc II			Aquaculture and it's Applications	

Summary of Lesson Plan

Second Term : 16 .Dec.2021 to 30.April .2021

Name of Teacher: Dr.Kakasaheb S.Raut

Sub: Zoology

Class : B.Sc. I (Second Semester)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Histology and Histochemistry-IV,U-Zoo-256	Unit –I Tissues and Its aggregation 1) Epithelial tissue: i) Squamous ii) Cuboidal iii) Columnar iv) Glandular 2) Connective tissue Hyaline cartilage, Bone, blood and lymph.	16 Dec 2021 to 16Jan .2021	03 02 02 01 02 02	Classroom Seminar	
2		Unit –II Histology of organs i) Stomach ii) Intestine iii) Live iv) Kidney v) Pancreas	16Jan .2021to 16Feb2021	02 02 02 02 02	--	Assignment on Unit no.I[Any three Points] 11. 3.2021
3.		Unit –III Histology of endocrine gland i) Pituitary gland ii) Thyroid gland iii) Adrenal gland iv) Testis and Ovary	16Feb2021to 16.March2021	02 02 02 02	--	---
4.		Unit-IV Histochemical Technique for Proteins, Carbohydrates and Lipids i) Protein:-Ninhydrin Schiff Method (Amino groups), Sakaguchi Method (Argenine) ii) Carbohydrates- PAS reaction (Bauer-Feulgen method - Glycogen) iii) Lipids – Oil Red O Method, Sudan black B method. iv) Histochemical Technique for Nucleic Acid DNA – Feulgen Nuclear Method, DNA extraction (Brachet)	16March2021to 16 April 2021	02 02 02 01 01	Classroom Seminar	Assignment on Unit no.I[Any three Points] 11. 6.2021

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Summary of Lesson Plan

Second Term : 16 .Dec.2021 to 30.April .2021

Name of Teacher: Dr. Kakasaheb .S.Raut

Subject: Zoology

Class : B.Sc.III (Sixth Semester)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Applied Zoology XII ,[Course Code U-ZOO-680-A]	Unit I: Aquaculture 1. Principles, definition Scope. and importance 2. Types of aquaculture <ul style="list-style-type: none"> • Monoculture • Polyculture • Integrated fish Farming: (Paddy cum fish culture Fish cum duck forming and Fish cum pig farming) 	16 Dec - 2021 to 16Jan2022	02 02 02 02 02	Classroom Seminar	-----
2		Unit II: Aquaculture Culture of non fish organisms <ul style="list-style-type: none"> • Fresh water prawn culture • Pearls Oyster culture 2. Culture methods <ul style="list-style-type: none"> • Pen culture • Cage Culture 3. Characteristics of water (Physical, Chemical and Biological)	16Jan2022 to 16 Feb 2021	02 02 02 02 02	----	Assignment on Unit I , [Any three Points] 30.01.2021
3.		Unit-III :Pisciculture <ul style="list-style-type: none"> • Morphology and anatomy of cultivable fishes (Catla, Rohu, Mrigal). • Fish breeding. • Hatcheries and their management. • Rearing of spawn and transport of fish seed. Design and construction of freshwater fish farm	16 Feb 2021 to 16 March2021	02 02 02 02 02	Classroom Seminar	Assignment on Unit II [Any three Points] 28.02 .2021
4.		Unit-IV: Aquarium Keeping <ul style="list-style-type: none"> • Aquarium setting and Maintainace: • Aquarium fishes and plants. • Design, construction and materials used in home and public aquaria. • Common diseases of aquarium fishes and their diagnosis and treatment 	16 March2021 to 16 April 2021	02 02 02 02 02	Classroom Seminar	---

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Summary of Lesson Plan

First Term : 1.07.2021 to 30.11.2021

Name of Teacher: Dr. Kakasaheb .S.Raut

Subject.: Zoology

Class : M.Sc.I (First Semester)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Structure and functions in invertebrates [Course Code P-SFI-181]	Unit I: Protista, Parazoa, Metazoa and Porifera <input type="checkbox"/> General characteristics and Classification up to classes <input type="checkbox"/> Study of Euglena, Amoeba and Paramecium <input type="checkbox"/> Life cycle and pathogen city of Plasmodium vivax and Entamoeba histolytica <input type="checkbox"/> Locomotion and Reproduction in Protista <input type="checkbox"/> Evolution of symmetry and segmentation of Metazoa <input type="checkbox"/> Canal system and Spicules in sponges	01July-2021- to 30 July 2021	03 03 03 02 02 02 01	Classroom Seminar	Assignment on Unit I , [Any Three Points] 24.07.2021
2		Unit II: Cnidaria, Ctenophora and Platyhelminthes <input type="checkbox"/> General characteristics and Classification up to classes <input type="checkbox"/> Metagenesis in Obelia <input type="checkbox"/> Polymorphism in Cnidaria <input type="checkbox"/> Corals and coral reefs <input type="checkbox"/> Life cycle and pathogenicity of Fasciola hepatica ,Taenia solium <input type="checkbox"/> Parasitic adaptations in helminthes <input type="checkbox"/> Introduction to Coelomates <input type="checkbox"/> Evolution of coelom and	31July -2021 to 31Aug 2021	03 03 03 02 02 02 01	----	Class Test (20-25 Aug 2021)
3.		Unit-III : Nematohelminthes, Annelida, Arthropoda and Onychophora <input type="checkbox"/> General characteristics and Classification up to classes <input type="checkbox"/> Life cycle and pathogen city of Ascaris lumbricoides and Wuchereria bancrofti <input type="checkbox"/> Excretion in Annelida <input type="checkbox"/> Vision and Respiration in Arthropoda <input type="checkbox"/> Metamorphosis in Insects Social life in bees and termites <input type="checkbox"/> Evolutionary significance of Onychophora	31Aug 2021to 30 Sept 2021	03 03 03 02 02 02 01	Classroom Seminar	Unit II , [Any Three Points] 15Sept .2021

4.		<p>Unit-IV: Mollusca and Echinodermata</p> <ul style="list-style-type: none"> <input type="checkbox"/> General characteristics and Classification up to classes <input type="checkbox"/> Respiration in Mollusca Torsion and distortion in Gastropod <input type="checkbox"/> Pearl formation in bivalves <input type="checkbox"/> Evolutionary significance of trochophore larva <input type="checkbox"/> Water-vascular system in Asteroidea <input type="checkbox"/> Larval forms in Echinodermata <input type="checkbox"/> Affinities with Chordatess 	30 Sept 2021 to 30 Oct .2021	02 02 02 02 02 02 02	Classroom Seminar	Assignment on Unit III , [Any Three Points] 29Oct h.2021 --
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Summary of Lesson Plan

First Term : 1.07.2021 to 30.11.2021

Name of Teacher: Dr. Kakasaheb .S.Raut

Subject.: Zoology

Class : M.Sc.II (Sem.III)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Animal Behavior and Applied Zoology]	Unit I: Introduction of Ethology Patterns of Behaviour: Individual behavioural pattern Homing behaviour Genetics of behaviour 2.1 Genetic basis of behaviour 2.2 Learning behaviour	1..July -2021 to 30 July 2021	02 02 02 02 02 02 02	Classroom Seminar	-----
2		Unit II: Evolutionary approach to behaviour; Levels of natural selection Reproductive behavioural pattern -Mating behaviour in animals -Parental investment -stickle back behaviour Social organization -Dominance hierarchies	31 July 2021 to 30 Aug 2021	02 02 02 02 02 02 02	----	Assignment on Unit I , [Any Three Points] 25 Aug .2021
3.		Unit-III : Individual social interactions -Animal communications -Dance language of the honey bees -aggregation -Social facilitation Comparative aspects of learning-defination and forms of learning behaviour,Mechanisms of learning,Imprinting	30 Aug 2021 to 30Sept 2021	02 02 02 02 02 02 02	Classroom Seminar	Assignment on Unit II , [Any Three Points] 20Sept .2021
4.		Unit-IV: Applied Zoology (Basic concepts, process and application) 1.Sericulture 2.apiculture 3.fish cuture 4.Poultry keeping 5.Dairy industry 6.Lac culture	30Sept 2021 to 30 .Oct.2021	02 02 02 02 02 02 02	Classroom Seminar	---

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Summary of Lesson Plan
Second Term : : 16 .Dec.2021 to 30.April .2021

Name of Teacher: Dr. Kakasaheb .S.Raut

Subject.: Zoology

Class : M.Sc.II (Sem.IV)

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Aquaculture and it's Applications P-AAI-484	Unit I: Scope and definition; origins and growth of aquaculture; biological and technological basis; Extensive, semi - intensive and intensive culture; monoculture and monosex culture , polyculture, cage culture, pen culture, raft culture, race way culture, cold water aquaculture; sewage – fed fish culture, Selection of Sites: Survey and location of suitable site – topography; soil characteristics; acid sulphate soils; water source; hydrometeorological data.	16 Dec to 16 Jan 2021	03 03 03 03 03	Classroom Seminar	-----
2		Unit II: Aquaculture Engineering: Design and construction of pond, layout and design , construction, water intake system, drainage system; aeration and aerators of aquaculture farm,; recent advances in aquaculture engineering; tips for better aquaculture practices; design and construction of Chinese hatchery. Hydrology of Ponds: Types of ponds; sources of water – precipitation, direct run off, stream inflow, ground water inflow, regulated inflow; losses of water– evaporation, seepage, outflow, consumptive use, water budgets of embankment of ponds; water budget of an excavated pond; water exchange.	16 Jan 2021to 16 .Feb 2021	03 03 03 03 03	----	Assignment on Unit I , [Any Three Points] 22Jan v.2021
3.		Unit-III : Selection of Species: Biological characteristics of aquaculture species; economic and market considerations; seed resources, collection and types of transportation. Pre Stocking Management: Sun drying, ploughing, desilting, liming and fertilization, eradication of weed fishes. Stocking: Acclimatization of seed and release; species combinations; stocking density ratio.	16 Feb 2021 to 16 March2021	02 02 02 02 02	Classroom Seminar	Assignment on Unit II , [Any Three Points] 24 Feb 2021

4.		Unit-IV: Post Stocking Management: Water and soil quality parameters required for optimum fish production, control of aquatic weeds aquatic insects and algal blooms; specific food consumption, food conversion ratio (FCR), protein efficiency ratio, True and apparent net protein utilization, biological value of protein. Growth: Measurement of growth and length - weight relationship; methods of determination of age in fishes on length data and growth checks; ponderal index; growth hormones.	16 March 2021 to 16 April 2021	02 02 02 02 02	Classroom Seminar	--- Assignment on Unit III , [Any Three Points] 25 March 2021
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