

Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)
Structured Work Plan for Teaching
(2020-2021)
(SEM-I, III, V)

1. Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Theory Papers	Practical papers
1	B.Sc. I	Dr.D.S.Rathod	Zoology	Cell biology and Bioinstrumentation	Lab.Course-II
2	B.Sc. II			Animal Physiology and Immunology	Lab.Course-V
3	B.Sc. III			Ecology and evolution	Lab.Course.IX

First Term : 11.9.2020 to 31.12.2020

Summary of Lesson Plan

Name of Teacher: Dr. D.S.Rathod

Sub: Zoology

Class : B.Sc. I (Sem-I)

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	Cell biology and Bioinstrumentation	Unit – I I) Introduction to Cell Biology ii) Cell and Cell Theory iii) Ultra structure of prokaryotic and eukaryotic cell iv) Comparison between plant and animal cell v) Structure and Function of plasma membrane	11.9.2020 To 29.9.2020	05 02 02 03	Classroom Seminar	Assignment
2		Unit – II I) Structure and Function of Endoplasmic reticulum ii) Structure and Function of Golgi complex iii) Structure and Function of Mitochondria iv) Structure and Function of Ribosome v) Structure and Function of Lysosome	2.10.2020 To 27.10.2020	02 05 03 03	Classroom Seminar	Assignment
3.		Unit – III i) Structure and function of Nucleus and Chromosome ii) Cell cycle-Its regulation and Significance, iii) Mitosis, Meiosis and their significance iv) Apoptosis v) Cell Fractionation and Centrifugation vi) Autoradiography	2.11.2020 To 27.11.2020	02 05 02 02	Classroom Seminar	Assignment
4.		Unit – IVi) Chromatography: - Paper, Thin layer, Column Chromatography ii) Electrophoresis-Principles and Working iii) Colorimeter- Principles and Working iv) PH meter- Principles and Working v) Micro-Technique and Microscopy	28.11-20 To 7.12.2020	05 02 04	Classroom Seminar	Assignment

Summary Lesson Plan

Name of Teacher: Dr. D.S.Rathod

Subject: Zoology

13.07.2020 to 31.12.2020

Class: B.Sc.II (Sem-III)

Sr. No.	Subject/Name of Paper	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Biochemistry-VII	Unit – I 1) Digestion Physiology i) Intracellular and Extracellular digestion ii) Mechanical process in digestion iii) Chemical process of digestion iv) Absorption of food 2) Respiration physiology i) External and Internal respiration ii) Respiratory organs of man iii) Mechanism of respiration iv) O ₂ and CO ₂ transportation v) Control of respiration and Respiratory quotient	13.7.2020 To 29.7.2020	01 07 06	Classroom Seminar	Assignment
2		1) Circulation physiology i) Open and closed type of circulation ii) Circulatory organs (Heart and Blood vessels) iii) Typical pattern of circulation iv) Composition and function of blood v) Level of blood Cholesterol, urea and sugar. vi) Erythropoiesis and Its regulation vii) Blood pressure, ECG, Heart beat and Cardiac cycle. viii) Lymphatic system (Lymph, Lymph vessels and Lymph node)	02.8.2020 To 27.8.2020	04 09	Classroom Seminar	Assignment
3.		Unit –III 1) Excretion physiology i) Mode up of Excretion ii) Structure of nephron (Uriferous tubule) iii) Physiology of Urine formation Composition of urine and Osmoregulation 2) Neurophysiology i) Structure of Neuron ii) Structure of Synapse and reflex action iii) Conduction of nerve impulses and Neurotransmitter	02.9.2020 To 27.9.2020	02 05 03 02	Classroom Seminar	Assignment
4.		UNIT:-IV 3) Immunology 1) Muscle physiology i) Structure and types of muscles and Ultra structure of skeletal muscle fibre iv) Sliding filament theory 2) Reproductive Physiology i) Hormonal control of testicular and ovarian functions, menstrual cycle, estrous cycle, and Homeostasis. ii) Types of Immunity iii) The immune system iv) Immune response (Antigen, Antibody, Humoral and cell mediated immunity)	10.10-20 To 3.11.2020	06 04 04	Classroom Seminar	Assignment

Summary Lesson Plan

Name of Teacher: Dr. D.S.Rathod

Subject.: Zoology

13.07.2020 to 31.12.2020

Class : B.Sc.III (Sem-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	Ethology, Biometry and Bioinformatics	Unit I: Ecology <ul style="list-style-type: none"> • Concept of the ecosystem • Types of ecosystem • Pond ecosystem • Desert ecosystem. 	13 .7. 2020 To 29.7.20 20	01 07 06	Classroom Seminar	Assignment
2		Unit II: Community ecology <ul style="list-style-type: none"> • Characteristics of community • Ecological Succession- Hydrarch and Xerarch • Biotic Interaction: <ul style="list-style-type: none"> • Positive interactions – Commensalism, Mutualism • Negative interactions – Competition, Predation, Parasitism 	02 .8. 2020 To 27.8.20 20	04 09	Classroom Seminar	Assignment
3.		Unit-III: Population ecology and pollution <ul style="list-style-type: none"> • Characteristics of population • Pollution: <ul style="list-style-type: none"> • Air pollution • Water pollution • Energy resources (Conventional and nonconventional) 	02 .9. 2020 To 27.9.20 20	02 05 03 02	Classroom Seminar	Assignment
4.		Unit 4: Evolution <ul style="list-style-type: none"> • Embryological and Paleontological Evidences • Lamarck's theory of evolution • Darwinism and Neo-Darwinism 	10 .10 -20 To 3 .11.20 20	06 04 04	Classroom Seminar	Assignment

Head, Department of Zoology and Fishery Science
Dr. D.S.Rathod

Head

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Rajarshi Shahu Mahavidyalaya,
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Principal
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2. Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Theory Papers	Practical papers
1	B.Sc. I	Dr.D.S.Rathod	Zoology	Developmental Biology-III	Lab.Course-II
2	B.Sc. II			Biochemistry-VII	Lab.Course-V
3	B.Sc. III			Ethology, Biometry and Bioinformatics-IX	Lab.Course.IX

Summary of Lesson Plan

Second Term : (22 Feb– 2020 to May . 2021)

Name of Teacher: Dr. D.S.Rathod

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	Developmental Biology	Unit –I Introduction i) Gametogenesis- Spermatogenesis and Oogenesis, ii) Types of eggs, iii) Male and Female gametes IV) General fertilization	22.2.2021 to 22.3.2021	05 02 02 03	Classroom Seminar	Assignment
2		Unit –II Early Embryonic Development of frog i) Cleavage ii) Blastulation and Gastrulation iii) Differentiation of germ layers iv) Metamorphosis- changes and hormonal regulation of metamorphosis in amphibians	23.3.2021 to 23.04.2021	02 05 03 03	Classroom Seminar	Assignment
3.		Unit –III i) Extra embryonic membranes in Chick ii) Placenta in mammals- structure, types and physiology of placenta iii) Regeneration in animals-(invertebrates and Vertebrates) vi) Developmental study of <i>Drosophila melanogaster</i> / Zebra fish	24.04.2021 to 15.5.2021	02 05 02 02	Classroom Seminar	Assignment
4.		Unit-IV i) Infertility, Diagnosing Infertility-Test tube baby and Gamete intra fallopian transfer. ii) Ageing concept iii) Stem cell- Embryonic stem cell, Adult stem cell,	15.5.2021 To 31.5.2021	05 02 04	Classroom Seminar	Extra Lecture on every Sunday

Summary of Lesson Plan

Second Term : (22 Feb- 2020 to May . 2021)

Name of Teacher: Dr. D.S.Rathod

Subject.: Zoology

Class : B.Sc.II (Second Semester)

Sr. No.	Subject/Name of Paper	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Biochemistry-VII	Unit-I (Classification, and biological functions) i) Introduction of Biochemistry ii) Carbohydrates and lipids iii) Proteins and Amino acids	22.2.2021 to 22.3.2021	14	Classroom Seminar	Assignment
2		Unit-II i) Vitamins (Discovery, types and their functional Significance.) a) Fat soluble (A, D, E, K; Q and U) b) Water soluble (B-complex family and Ascorbic Acid)	23.3.2021 to 23.04.2021	12	Classroom Seminar	Assignment
3.		Unit-III (Enzymology) i) Nomenclature of enzyme and chemistry of enzymes ii) Classification, properties of enzyme iii) Mechanism and factor affecting on enzyme action iv) Biological function of enzymes	24.04.2021 to 15.5.2021	14	Classroom Seminar	Assignment
4.		Unit-VI (Metabolism) i) Metabolism of Carbohydrates (EMP, Krebs cycle, Glycogenesis, Glyconeogenesis, Glycogenolysis.) ii) Metabolism of lipid (Beta oxidation pathway, Ketogenesis, ketolysis, ketosis) iii) Metabolism of protein Urea cycle, Transamination Deamination	15.5.2021 To 31.5.2021	15	Classroom Seminar	Extra Lecture on every Sunday

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	Ethology, Biometry and Bioinformatics	Unit I: Ethology <input type="checkbox"/> Classification of Animal Behavior- <input type="checkbox"/> Stereotyped animal behavior – Taxis and Instincts with examples. <input type="checkbox"/> Acquired animal behavior – Imprinting, Conditioning, Habituation, and Reasoning.	22.2.2021 to 22.3.2021	14	Classroom Seminar	Assignment
2		Unit II: Ethology <input type="checkbox"/> Auditory Communication <input type="checkbox"/> Chemical Communication <input type="checkbox"/> Visual Communication <input type="checkbox"/> Tactile Communication <input type="checkbox"/> Mimicry and Coloration	23.3.2021 to 23.04.2021	12	Classroom Seminar	Assignment
3.		Unit-III: Biometry <input type="checkbox"/> Primary and Secondary data <input type="checkbox"/> Collection, Tabulation and Classification of Data <input type="checkbox"/> Methods of collection of data <input type="checkbox"/> Measures of Central Tendency : (Arithmetic Mean, Median and Mode) <input type="checkbox"/> Measures of Variability – Standard Deviation <input type="checkbox"/> Graphical Representation of Data <input type="checkbox"/> Histogram and Pie Diagram <input type="checkbox"/> Polygon Frequency Curve	24.04.2021 to 15.5.2021	14	Classroom Seminar	Assignment
4.		Unit-IV: Bioinformatics <input type="checkbox"/> Introduction to Bioinformatics. <input type="checkbox"/> Applications of Bioinformatics <input type="checkbox"/> Biological Data Bases and significance <input type="checkbox"/> Bioinformatics Tools-BLAST and FASTA.	15.5.2021 To 31.5.2021	15	Classroom Seminar	Extra Lecture on every Sunday


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