

**Rajarshi Shahu Mahavidyalaya, Latur**  
(Autonomous)  
**Structured Work Plan for Teaching**  
(2019 to 2020)  
(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

Summary of Lesson Plan

Name of Teacher: Dr. D.S.Rathod

Sub: Zoology

First Term: 22.06.2019 to 3.11..2019

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	22 .6. 2019 To 30.6.20 19	03 02 02 02	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	02 .7. 2019 To 27.7.20 19	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	02 .8. 2019 To 27.8.20 19	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	10 .9 -19 To 30 .9.20 19	05 02 04	Classroom Seminar	Chapters 1, 2 & 3 on 12.March.2018 Assignment

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	Animal Physiology	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 <sub>2</sub> and CO <sub>2</sub> transportation v) Control of respiration and Respiratory quotient	22.6.2019 To 30.6.2019	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)	02.7.2019 To 27.7.2019	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	02.8.2019 To 27.8.2019	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. i) Types of Immunity ii) The immune system iii) Immune response (Antigen, Antibody, Humoral and cell mediated immunity)	10.9.19 To 30.9.2019	06 04 04	Classroom Seminar	Assignment



## Summary of Lesson Plan

First Term : 22.06.2019 to 3.11.2019

Name of Teacher: Dr. D.S.Rathod

Subject.: Zoology

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	Ecology and Evolution	Unit I: Ecology <ul style="list-style-type: none"> <li>• Concept of the ecosystem</li> <li>• Types of ecosystem</li> <li>• Pond ecosystem</li> <li>• Desert ecosystem.</li> </ul>	22 .6. 2019 To 30.6.20 19	01 07 06	Classroom Seminar	Assignment
2		Unit II: Community ecology <ul style="list-style-type: none"> <li>• Characteristics of community</li> <li>• Ecological Succession- Hydrarch and Xerarch</li> <li>• Biotic Interaction:</li> <li>• Positive interactions – Commensalism, Mutualism</li> <li>• Negative interactions – Competition, Predation, Parasitism</li> </ul>	02 .7. 2019 To 27.7.20 19	04 09	Classroom Seminar	Assignment
3.		Unit-III: Population ecology and pollution <ul style="list-style-type: none"> <li>• Characteristics of population</li> <li>• Pollution:</li> <li>• Air pollution</li> <li>• Water pollution</li> <li>• Energy resources (Conventional and nonconventional)</li> </ul>	02 .8. 2019 To 27.8.20 19	02 05 03 02	Classroom Seminar	Assignment
4.		Unit 4: Evolution <ul style="list-style-type: none"> <li>• Embryological and PaleontologicalEvidences</li> <li>• Lamarck's theory of evolution</li> <li>• Darwinism and Neo-Darwinism</li> </ul>	10 .9 -19 To 30 .9.20 19	06 04 04	Classroom Seminar	Assignment

Head, Department of Zoology and Fishery Science

Dr. D.S.Rathod

Head

Fishery Science

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Academic Calender and Teaching plan\DSR-Teaching Plan\Dr. DSR-Teaching Plan-2019-2020

Rajarshi

Latur (Autonomous)

Principal  
PRINCIPAL

Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

**Rajarshi Shahu Mahavidyalaya, Latur**  
**( Autonomous )**  
**Structured Work Plan for Teaching**  
**(2019 to 2020)**  
**(Sem-II,IV,VI)**

**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 : (9<sup>th</sup> Dec – 2019 to 31 Mar 2020)

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	9.12-19 to 31.12.2019	05 02 02 03	Classroom Seminar	Chapters 1, 2 & 3 on 11.12.2018 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	1.01.20 to 31.01.2020	02 05 03 03	Classroom Seminar	Chapters 1, 2 & 3 on 15.Jan-18 Assignment Surprised Test (20 Jan-19 to 28 Jan-19)
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	1.02.20 to 28.02.2020	02 05 02 02	Classroom Seminar	Chapters 1, 2 & 3 on 12.Feb.2018 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, Haemopoietic stem cell, Nervous stem cell,	2.03.20 to 31.02.2020	05 02 04	Classroom Seminar	Chapters 1, 2 & 3 on 12.March.2018 Assignment



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	9.12.19 to 31.12.2019	01 07 06	Classroom Seminar	Chapters 1, 2 & 3 on 11.12.2018 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)	1.01.20 to 31.01.2020	04 09	Classroom Seminar	Chapters 1, 2 & 3 on 15.Jan-18 Assignment Surprised Test (20 Jan-19 to 28 Jan-19)
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	1.02.20 to 28.02.2020	02 05 03 02	Classroom Seminar	Chapters 1, 2 & 3 on 12.Feb.2018 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	2.03.20 to 31.02.2020	06 04 04	Classroom Seminar	Chapters 1, 2 & 3 on 12.March.2018 Assignment

Summary of Lesson Plan  
Name of Teacher: Dr. D.S.Rathod

Sub: Zoology

Second Term : (9<sup>th</sup> Dec - 2019 to 31 Mar 2020)  
Class : B.Sc. III( Sem-VI)

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 Classification of Animal Behavior- Stereotyped animal behavior – Taxis and Instincts with examples. Acquired animal behavior – Imprinting, Conditioning, Habituation, and Reasoning.	9.12.19 to 31.12.2019	01 07 06	Classroom Seminar	Chapters 1, 2 & 3 on 11.12.2018 Assignment
2		Unit II: Ethology Auditory Communication Chemical Communication Visual Communication Tactile Communication Mimicry and Coloration	1.01.20 to 31.01.2020	04 09	Classroom Seminar	Chapters 1, 2 & 3 on 15.Jan-18 Assignment Surprised Test (20 Jan-19 to 28 Jan-19)
3.		Unit-III: Biometry Primary and Secondary data Collection, Tabulation and Classification of Data Methods of collection of data Measures of Central Tendency: (Arithmetic Mean, Median and Mode) Measures of Variability – Standard Deviation Graphical Representation of Data Histogram and Pie Diagram Polygon Frequency Curve	1.02.20 to 28.02.2020	02 05 03 02	Classroom Seminar	Chapters 1, 2 & 3 on 12.Feb.2018 Assignment
4.		Unit-IV: Bioinformatics Introduction to Bioinformatics. Applications of Bioinformatics Biological Data Bases and significance Bioinformatics Tools-BLAST and FASTA.	2.03.20 to 31.02.2020	06 04 04	Classroom Seminar	Chapters 1, 2 & 3 on 12.March.2018 Assignment

Head, Department of Zoology and Fishery Science

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