



# JAWAHAR ARTS SCIENCE AND COMMERCE COLLEGE

Anadur Ta. Tuljapur Dist. Osmanabad

Annual Teaching Plan

20 2021 - 20 22

Name of the Teacher : - Dr. S. S. Baad

Department : - Zoology

Class : - B. Sc. I<sup>st</sup> Semester I<sup>st</sup>

Paper No. : - II<sup>nd</sup>

Name of Paper : - Cell Biology

Month	Name of Chapter and Unit	Chapter wise Periods Allotted	Total Periods in Month	Teaching Methods to be Used	Sign of Principal
	<b>1. General Structure of Cell</b>		12		
	• Structure of Prokaryotic Cell	2		Chart	
	• Structure of eukaryotic Cell	2		Chart	
	• Cell Cycle	2		Chart	
	• Mitosis	3		Slides	
	• Meiosis	3		Slides	
	<b>2. Organization of Cell</b>		20		
	A) Study of Various Cell organelles	01		Model	
	• Structure of Endoplasmic reticulum	01		Model	
	• Function of Endoplasmic reticulum	01		Model	
	• Structure of Golgi Bodies	01		Model	
	• Function of Golgi Bodies	01		Model	
	• Morphology, Ultra-Structure of Mitochondria	01		Model	
	• Biogenesis	01		Lecture	
	• Structure of Nucleus	01		Model	



• Function of Nucleus	01		Lecture
• Structure of DNA	02		Model
• Types of RNA	02		Model
• Structure of Lysosome	02		Model
• Function of Lysosome	01		Lecture
• Polymorphism	01		Lecture
B) Cytology of Cancer	01		Lecture
Types of Cancer	01		Lecture
<b>3. Methods in Cell Biology</b>		13	
• Light Microscope	3		Model
• Phase contrast Microscope	3		Model
• Electron Microscope	4		Model
• Microtechniques	4		Model
• Fixation & Staining	01		Lecture

*Handwritten signature*

Dr. B. S. S.

*Handwritten signature*

PRINCIPAL  
Jawahar Arts, Science & Commerce  
College, Anadur,  
Tal. Tuljapur, Dist. Osmanabad.



## JAWAHAR ARTS SCIENCE AND COMMERCE COLLEGE

Anadur Ta. Tuljapur Dist. Osmanabad

Annual Teaching Plan

20 21 - 2022

Name of the Teacher : - Dr. S. S. Baad

Department : - Zoology

Class : - B. Sc. I<sup>st</sup>

Semester II<sup>nd</sup>

Paper No. : - V<sup>th</sup>

Name of Paper : - Arthropoda to Echinodermata and Protochordata

Month	Name of Chapter and Unit	Chapter wise Periods Allotted	Total Periods in Month	Teaching Methods to be Used	Sign of Principal
	<b>1. Arthropoda</b>	15	15		
	<b>Prawn</b>				
	• Structure of Prawn	2		Chart	
	• Digestive System of Prawn	2		Chart	
	• Nervous System of Prawn	2		Chart	
	• Reproductive System of Prawn	2		Chart	
	<b>Cockroach</b>				
	• External Characters of Cockroach	2		Chart	
	• Digestive System of Cockroach	2		Chart	
	• Respiratory of Cockroach	2		Chart	
	• Reproductive System of Cockroach	1		Chart	
	<b>2. Mollusca</b>				
	• External Characters of Pila	01		Chart	
	• Respiratory Syt. of Pila	01		Chart	
	• Circulatory Syt. of Pila	01		Chart	



• Nervous Syst. of Pila	01		Chart
• Reproductive System of Pila	02		Chart
<b>3. Echinodermata</b>		10	
• Morphology of Oral & Aboral View of Asterias	03		Model
• Water Vascular System of Asterias	03		Model
• Reproductive System including development of Asterias	04		Model
<b>4. General Character and Classification of Protochordata</b>		14	
<b>A. Amphioxus</b>			
• External features of Amphioxus	02		Chart
• Digestive System of Amphioxus	02		Chart
• Circulatory System of Amphioxus	02		Chart
• Reproductive Systems including development of Amphioxus	02		Chart
<b>B. Hemichordata</b>			
• General Characters of Hemichordata	02		Lecture
• Affinities of Hemichordata	02		Lecture
<b>C. Herdmania</b>			
• General Characters of Herdmania	02		
• Morphology of Herdmania			Lecture

JhP  
Dr. Baad S S  
)

  
**PRINCIPAL**  
Jawahar Arts, Science & Commerce  
College, Anadur,  
Tal. Tugapur, Dist. Osmanabad.



## JAWAHAR ARTS SCIENCE AND COMMERCE COLLEGE

Anadur Ta. Tuljapur Dist. Osmanabad

Annual Teaching Plan

2021 - 20 22

Name of the Teacher : - Dr. S. S. Baad

Department : - Zoology

Class : - B. Sc. II<sup>nd</sup> Semester III<sup>rd</sup>

Paper No. : - IX<sup>th</sup>

Name of Paper : - Vertebrate Zoology

Month	Name of Chapter and Unit	Chapter wise Periods Allotted	Total Periods in Month	Teaching Methods to be Used	Sign of Principal
	<b>1. Agnatha</b>		02		
	• Out line Classification	01		Model	
	• General Characters of Cyclostomata	01		Model	
	<b>2. Pisces</b>		08		
	• Out line Classification	01		Model	
	• General Characters of Pisces	01		Model	
	<b>Scoliodon</b>				
	• External Characters of Scoliodon	01		Model	
	• Digestive System of Scoliodon	01		Model	
	• Respiratory System of Scoliodon	01		Model	
	• Blood Vascular System of Scoliodon	01		Model	
	• Nervous System of Scoliodon	02		Model	
	<b>3. Amphibia</b>		06		
	• Out line Classification	01		Model	
	• Development of Frog	01		Model	
	• Neotony	01		Model	



• Parental Care in Amhibia	02		Model
<b>4. Reptilia</b>		06	Model
• Out line Classification	01		Model
<b>Calotes</b>			Model
• External Features of Calotes	02		Model
• Respiratory System of Calotes	02		
• Blood Vascular System of Calotes	02		Model
<b>5. Aves</b>		10	Model
• Out line Classification	01		Model
<b>Columba Livia</b>			Model
• External Features of Columba Livia	01		Model
• Respiratory System of Columba Livia	01		Model
<b>Embryology of Chick</b>			
• Cleavage	01		Model
• Blastula	01		Model
• Gastulation	01		Model
• Formation of Germinal Layers	01		Model
• Extra Embryonic Membranes	01		Model
• Flight Adaptation in Birds	01		Model
• Migration in Birds	02		Model
<b>6. Mammalia</b>		13	Model
• Out line Classification	3		Model
<b>Ratus ratus</b>			Model
• External Features of	3		Model



Ratus ratus			
• Blood Vascular System of Ratus ratus	3		Model
• Urino-genital System of Ratus ratus	3		
• Adaptive radiation in mammals of Ratus ratus	01		

1/11/15  
Dr. Baad S. S.

**PRINCIPAL**  
Jawahar Arts, Science & Commerce  
College, Anadur,  
Tal. Turga, Dist. Osmanabad.



## JAWAHAR ARTS SCIENCE AND COMMERCE COLLEGE

Anadur Ta. Tuljapur Dist. Osmanabad

Annual Teaching Plan

2021 - 20 22

Name of the Teacher : - Dr. S. S. Baad

Department : - Zoology

Class : - B. Sc. II<sup>nd</sup> Semester IV<sup>th</sup>

Paper No. : - XIII<sup>th</sup>

Name of Paper : - Animal Physiology (Special Emphasis on Mammals)

Month	Name of Chapter and Unit	Chapter wise Periods Allotted	Total Periods in Month	Teaching Methods to be Used	Sign of Principal
	<b>1. Digestion</b>		07		
	<b>Digestive System</b>				
	<b>Introduction (Buccal Digestion)</b>				
	• Salivary Secretion and Digestion	01			
	<b>Gastric Digestion</b>				
	• Gastric Secretion and Digestion	01			
	<b>Intestinal Digestion</b>				
	• Pancreatic Secretion	01			
	• Bile Juices	01			
	• Digestion in Small Intestine	01			
	• Digestion and Absorption in Large Intestine	01			
	<b>2. Respiration</b>		09		
	• Respiratory Organs	02			
	• Breathing Mechanism	02			
	<b>Respiratory Pigments</b>				
	• Properties of Respiratory Pigments	02			





• Function of Respiratory Pigments	01		
• External Respiration	01		
• Internal Respiration	04		
• Transport of Gases			
<b>3. Circulation</b>			
• Working of Mammalian Heart	02	05	
• Blood and its Composition	02		
• Mechanism of Blood Clotting	01		
<b>4. Excretion</b>		05	
• Structure of Kidney	01		
• Structure of Uriniferous Tubules	02		
<b>Urine Formation</b>			
• Ultra Filtration Selective of Urine Formation	01		
• Re-absorption of Urine Formation	01		
• Tubular Secretion of Urine Formation	01		
• Counter Current Multiplier System	01		
<b>5. Nerve Physiology</b>		06	
• Structure of Nerve Cell and Neuron	02		
• Neurotransmitters	02		
<b>Synapses</b>			
• Ultra Structure of Synapses	02		
• Function of Synapses	02		
<b>6. Muscles Physiology</b>			



• Ultra Structure of Smooth Muscle	08		
• Striated Muscles	01		
• Cardiac Muscles	01		
• Muscle Contraction	01		
• Simple Twitch	01		
• Fatigue	01		
<b>7. Reproduction</b>		08	
• Structure of Gonads	02		
• Gametogenesis	02		
• Role of Sex Hormones in Reproduction	02		
<b>Reproductive Cycles</b>	1		
• Oestrous	01		
• Menstrual Cycle	01		

*Handwritten signature*  
Dr. B. A. D. S. S.

*Handwritten signature*  
**PRINCIPAL**  
Jawahar Arts, Science & Commerce  
College, Anadur,  
Tal. Tuljapur, Dist. Osmanabad.



**JAWAHAR ARTS SCIENCE AND COMMERCE COLLEGE**

Anadur Ta. Tuljapur Dist. Osmanabad .

Annual Teaching Plan

20 21 - 2022

Name of the Teacher : - Dr. S. S. Baad

Department : - Zoology

Class : - B. Sc. III<sup>rd</sup> Semester V<sup>th</sup>

Paper No. : - XVII<sup>th</sup>

Namer of Paper : - Ecology

Month	Name of Chapter and Unit	Chapter wise Periods Allotted	Total Periods in Month	Teaching Methods to be Used	Sign of Principal
	<b>1. Introduction</b>		02		
	• Definition, Basic Concept of Ecology	01		LCD Projector	
	• Terminology used in Ecology	01		LCD Projector	
	<b>2. Abiotic Environmental Factors</b>		08		
	• Temperature Concept	01		Charts	
	• Temperature fluctuation in different environment	01		Charts	
	• Range of Temperature Tolerance	02		Charts	
	• Effect of temperature on animals	02		Charts	
	• Thermal adaptation	01		Charts	
	• Light-concept	01		Charts	
	• Light Variation in different environment	01		Charts	
	• effect of light on animals	01		Charts	
	• adaptation to salinity and moisture	01		Charts	
	<b>3. Biotic environmental factors</b>		08		
	• Composition : Definition	01		Slide	

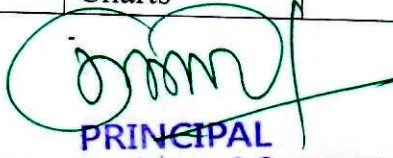


			Projector
• Types of Composition	01		Slide Projector
• Intraspecific and interspecific composition	01		Slide Projector
• Predation : Definition	01		Slide Projector
• Characteristics of Predation	01		Slide Projector
• Commensalisms : Definition	01		Slide Projector
• Types with Examples	01		Slide Projector
• Mutualism : Definition and Examples	01		Slide Projector
• Parasitism : Definition and Types with examples	01		Slide Projector
<b>4. Population</b>		06	
• Definition and Basic Concepts	02		Charts
• Characteristics of Population Density, Natality, Mortality, Dispersion and Age distribution	02		Charts
• Population growth	01		Charts
• Population regulation	01		Charts
<b>5. Community</b>		06	
• Definition, Basic concept and Types	01		Charts
• Structure of Community; producer, Consumers and decomposers	01		Charts
• Characters; ecological niche, diversity, abundance, dominance, ecotone, edge effect.	01		Charts



• Community succession; example of succession and climax	03		Charts
6. Ecosystem		15	
• Definition, Concept and Types	03		OHP Projector
• Components of ecosystem	02		Charts
• Dynamics of ecosystem: Primary production, Secondary production, Food chain, Food web, Tropic level	03		Charts
Energy of Flow	02		Charts
Ecological Pyramids			Charts
• Brief introduction to major ecosystems : Marine Ecosystems Pond Ecosystems	03		Charts
Forest Ecosystem	01		Charts
Desert Ecosystem	01		Charts

12/11/18  
Dr Baad S.S.

  
**PRINCIPAL**  
Jawahar Arts, Science & Commerce  
College, Anadur,  
Tal. Tuljapur, Dist. Osmanabad,



## JAWAHAR ARTS SCIENCE AND COMMERCE COLLEGE

Anadur Ta. Tuljapur Dist. Osmanabad

Annual Teaching Plan

20 - 20

Name of the Teacher : - Dr. S. S. Baad

Department : - Zoology

Class : - B. Sc. III<sup>rd</sup> Semester VI<sup>th</sup>

Paper No. : - XXI<sup>st</sup>

Name of Paper : - Evolution

Month	Name of Chapter and Unit	Chapter wise Periods Allotted	Total Periods in Month	Teaching Methods to be Used	Sign of Principal
	<b>1. Concept of Organic Evolution</b>		06		
	• Definition and Concept	01		LCD Projector	
	• Theories of organic evolution in brief	01		LCD Projector	
	• Preformation Theory	01		LCD Projector	
	• Bear's Law	01		LCD Projector	
	• Biogenetic Law	01		LCD Projector	
	• Catastrophism	01		LCD Projector	
	• Lamarckism, Darwinism	01		LCD Projector	
	• Germplasm Theory	01		LCD Projector	
	<b>2. Origin of Life</b>		03		
	• Definition, Abiogenesis, Biogenesis	01		OHP Projector	
	• Chemical evolution of Life	02		OHP Projector	
	<b>3. Evidences of Organic Evolution</b>		04		
	• Anatomical Evidences	02		Models	
	• Embryological Evidences	02		Models	
	<b>4. Darwinism</b>		05		



• Introduction Natural Selection Theory	02		Teaching
• Artificial Selection Theory	01		Teaching
• Sexual Selection Theory	02		Teaching
<b>5. Elemental Forces of Evolution</b>		07	
• Mutation concept and role in Evolution	02		Charts
• Recombination concept and role in Evolution	02		Charts
• Natural selection concept and role in Evolution	01		Charts
• Genetic Drift. concept and role in Evolution	02		-Charts
<b>6. Basic Patterns of Evolution</b>		09	
• Sequential and divergent Evolution	02		Charts
• Microevolution concept, silent features & mechanism with example	02		Charts
• Macro Evolution concept, silent features & mechanism with example	02		Charts
• Mega Evolution concept, silent features & mechanism with example	03		-Charts
<b>7. Species and Speciation</b>		07	
• Species Morphological concept, Genetical concept, biological concept of Species	02		Charts
• Speciation Definition, Concept, Mechanism of Speciation	02		Charts



• Allopatric Sympatric and Parapatric Speciation	03		Charts
8. Fossils		04	
• Definition, Fossil formation	02		Charts
• Types of Fossils	02		Charts

M. B. Badar, S.

**PRINCIPAL**  
Jawahar Arts, Science & Commerce  
College, Anandur,  
Tal. Tuljapur, Dist. Osmanabad.