

SARDAR PATEL UNIVERSITY
Programme: BSC (ZOOLOGY)
Semester: VI
NEP Syllabus with effect from: November 2025

Paper Code: US06MAZOO01	Total Credit: 4
Title Of Paper: Developmental Biology	

Objectives	- To Provide Basics of Eggs, Fertilization and The stages of Embryogenesis - To provide Developmental Studies of Frog and Chick
Out Come	The students will learn about Eggs and Development of Embryo with Reference to Frog and Chick.

Unit	Description in detail	Weighting (%)
1	The Egg membranes Types of Eggs Fertilization :[Cytofertilization, Mechanism of Fertilization, Monospermy and Polyspermy, Significance] Parthenogenesis: [Natural, Artificial, Significance] Cleavage:[Characteristics, Planes , Patterns, Definite and Indefinite Cleavage, Types of Cleavage] Morula, Blastula and Blastulation	25%
2	Gastrulation: [Prominent features, General Processes Involved in Gastrulation, Significance] Brief account of Growth and Differentiation Placentation in Mammal[Origin, Types, Physiology] Teratology:[Introduction, Causes and Examples, Principals] Development of Amphioxus: Gametes, Fertilization, Organization of Fertilized Egg, Cleavage, Blastula, gastrulating, Formation of the Primary Organ Rudiments, Hatching, Larval Development, Metamorphosis]	25%
3	Development of frog Ovulation and spawning Cleavage and Blastula Fate-map Gastrulation neurulation Metamorphosis	25%

4	Development of chick Gametes and fertilization Cleavage and blastulation Gastrulation Differentiation of mesoderm and coelom Neurulation Development of chick according to incubation Extra embryonic membranes of Chick	25%
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Basic Text & Reference Books:

Introduction to embryology: A K Berry

Chordate embryology: Verma and Agrawal

Developmental biology: Sastry and Shukla

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Paper Code: US06MAZOO02	Total Credit: 4
Title of Paper: Comparative Anatomy of Chordates	

Objectives	To Provide Comparative anatomy of chordates of Major systems
Out Come	- The students will learn Differences between Entire Vertebrate systems - The common characters among Integumentary system, Digestive system, Reproductive system and Circulatory system

Unit	Description in detail	Weighting (%)
1	Integumentry System Integument proper Integumentary glands Scales, Feathers Hair, Beaks Claws, Nail and hoofs, Horns and antlers	25%
2	Digestive system Mouth and associated structure, Lips, Vestibule, Oral cavity and oral glands Teeth Tongue Esophagus Stomach Intestine Liver Pancreas	25%
3	Reproductive System Ovaries Oviducts Testes Male duct Copulatory organs	25%

4	Circulatory System Blood & blood vessels Evolution of Heart Arterial system Venous system Lymph & lymphatic system	25%
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Basic Text & Reference Books:

Elements of Chordate anatomy- Charles Weichert

Vertebrate body – Romar

Modern text book of Vertebrate Zoology- R. L. Kotpal

Biology of Chordate – H.C. Nigam

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Programme: B.Sc. (ZOOLOGY)

Semester: VI

NEP Syllabus with effect from: November 2025

Paper Code: US06MAZOO03	Total Credit: 4
Title Of Paper: Zoology Practical	

Part -1	• Study of different types of eggs by permanent slides. • Study of fate map of Frog by permanent slide. • Development of Amphioxus By Permanent Slides • Development of frog By Permanent Slides • Development of chick By Permanent Slides • Study the extra embryonic membranes of chick & prepare the temporary mounting of chick embryo. • Prepare some slide by using embryological material. (Amphibian eggs, cleavage, blastula, gastrula, tadpole larva)	2 credit
Part-2	• Comparative study of vertebrate Skin by permanent slides. • Study types of scales in fishes & prepared temporary mounting of different types of scales. • Study of different types of feathers & Collect the types of feathers. • Study the different types of teeth of vertebrate animals. • Study the comparative anatomy of vertebrate hearts by model or charts. • Bull's Sperm Counting • Bull's Sperm Motility and Mortality • Observation of migratory birds & observed different type of beaks & feets. [Field Study /Photographs] • Visit to national park and sanctuary	2 credit

Basic Text & Reference Books:

Practical zoology vertebrate: P. S. Verma.

Practical zoology vertebrate: S. S. Lal.

Practical physiology anatomy and biochemistry: Patel and Goel

Practical biochemistry: Plumer

SARDAR PATEL UNIVERSITY
Programme: BSC (ZOOLOGY)
Semester: VI, MINOR ZOOLOGY
NEP Syllabus with effect from: November 2025

Paper Code: US06MIZOO01	Total Credit: 2
Title Of Paper: Economic Zoology	

Objectives	To provide detail of Economic importance of Zoology.
Out Come	To learn about apiculture, Sericulture, Lac culture, Poultry and Pharmaceuticals from animals and insect pests of some crops and its management.

Unit	Description in detail	Weighting (%)
1	Habit and habitat, Social organization, Life cycle, Processing and its importance of : - Apiculture - Lac culture - Sericulture - Poultry - Pharmaceuticals from animals	25%
2	Insect Pests of some crops of Economic Importance: Pests of Sugarcane, Paddy, Pulse, crops, Grampod Borer, Vegetables, Fruits, Cotton, Oil seed crops, Coconut Palm, Tea, Coffee, Jute Crop. Insect Pest Management: Natural Control, Applied Control, Integrated Pest Management	25%

Basic Text & Reference Books:

Economic Zoology by Shukla and Upadhyay

A text book of Invertebrate Zoology by R.L. Kotpal

Invertebrate Zoology by- Jordan & Verma

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Programme: B.Sc. (ZOOLOGY)

Semester: VI, MINOR ZOOLOGY PRACTICAL

NEP Syllabus with effect from: November 2025

Paper Code: US06MIZOO02	Total Credit: 2
Title Of Paper: Zoology Practical	

	Practical Details • Study the Life cycle of Honey Bee • Study the Life cycle of Silk moth • Study the Life cycle of Lac Insect • To study the different breeds of Fowls • To study and observe the structure of egg • To mount the chick embryo. • Poultry visit and preparing report. • To study the different insect pests. • Collection of various insect pests and prepared insect box. • Field visit	2 credit
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Basic Text & Reference Books:

Practical zoology vertebrate: P S Verma.

Practical zoology vertebrate: S S Lal

Economic Zoology by Shukla and Upadhyay.