

F.Y.B.Sc NEP Zoology Indian Knowledge System Syllabus Semester I



**Hindi Vidya Prachar Samiti's
Ramniranjan Jhunjhunwala College
of Arts, Science & Commerce
(Empowered Autonomous College)
Affiliated to
UNIVERSITY OF MUMBAI**

SYLLABUS FOR F.Y.B.Sc. ZOOLOGY (Under NEP)

Vertical under NEP : Indian Knowledge System (IKS)

Semester : I

PRANISHASTRA AND BHARATAVARSHA

Course Code: RJKSZOO111

Revised 2023-2024 in alignment with the NEP 2020 facilitating the inter and multidisciplinary learning and multiple entry and exit of the students.

(CBCS 2023-2024)

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PREAMBLE

The National Education Policy 2020 is the first education policy of the 21st century that aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education, including SDG4, while building upon India's traditions and value systems. National Education Policy is based on the principle that education must develop not only cognitive capacities - both the 'foundational capacities' of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving – but also social, ethical, and emotional capacities and dispositions.

In the three-year UG program, the student has two exit options. Students also have the option for choosing the Honors program of four years study in a given discipline and later converting it to five-year integrated PG degree program. As undergraduate student, he/she learns the core subject (Major), subject complementing the core subject (Minor), a course from other discipline (OEC or GEC) Vocational and Skill Enhancement course from the Major(VSEC). The remaining verticals under NEP 2020 are IKS (Indian Knowledge System), AEC (Ability Enhancement Course), VEC (Value Enhancement Course) and with progressive three years of UG, student also completes at different levels OJT (On Job Training), FP (Field Projects), CEP (Community Engagement Program) , RP (Research Project) which helps him/her in understanding their roots, application of the knowledge for the benefit of self and the society. Vertical CC (Co-curricular activities and activities related to yoga and human well-being) helps in preparing youth with good character and inter personal relationships.

The Department of Zoology at Ramniranjan Jhunjhunwala College was established in 1963. Currently it offers undergraduate, postgraduate and Ph.D courses in the subject of Zoology. The department provides facilities such as a well-equipped lab. with LCD projectors, fish Museum and museum for specimen, departmental library, computer facility, research facilities to students. The subject of Zoology offers the basic understanding about the vast diversity of the animal kingdom across the globe. It enables the students to strengthen their knowledge in Animal Sciences and also in the other allied branches of Zoology. Keeping the interest of learner in mind, the syllabus has been carefully designed. It has a balance of the classical aspects of Zoology which includes topics like taxonomy, ecology and advanced aspects which include topics on introductory biochemistry and biotechnology.

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The undergraduate curriculum has been meticulously designed by considering the need for the subject development, industry requirement, research outlook, competitive exams and entrepreneurship skills. Each unit included in the syllabus has clearly defined objectives. It focuses on outcome-based learning. It aims at inculcating the critical thinking, enhancing the analytical ability, developing writing skills of the students. The syllabus includes field trips to ecological habitats, national parks, sanctuaries, natural history museum, reputed research institutes and industries to widen the student's horizon. The students are encouraged to participate in various project-based activities.

Topics like animal diversity and ecology have been included to recognise the vital role animals play in ecosystem and also to develop empathy towards the animals. This will motivate students towards careers in wildlife right from the early graduation phase. To hone the analytical skills, topics such as animal biotechnology, bioinformatics, genetic engineering has been rightly placed in the syllabus. Wide range of topics such as life processes, biochemistry, molecular biology, genetics, toxicology, haematology, immunology, applied immunology, endocrinology, histology, animal tissue culture, Zoo pharmacognosy have been included. The course content includes applied biology-fishery, entomology, wildlife with a view of developing entrepreneurship skills in the learner.

Owing to the current needs of the industry and other sectors, the syllabi is designed in a manner that the learner will be able to apply the knowledge and skills acquired in varied fields. The course encourages a sense of responsibility and empathy towards all living beings, promoting sustainable practices in the learner.

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DEPARTMENT OF ZOOLOGY

PROGRAMME : B.SC ZOOLOGY

PROGRAMME SPECIFIC OUTCOMES (PSOS) FOR B.SC ZOOLOGY

Sr. .No.	A student completing BSc.Zoology will be able to:
PSO1	Understands the nature and basic concepts of systematic classification, ecology, biomolecules, animal biotechnology, cell biology and genetics.
PSO2	Analyse and comprehend the concepts of Enzymology, developmental biology, histology and molecular biology. Acquaint with the skills in fishery biology, medical diagnostics and environment management to boost entrepreneurship skills.
PSO3	Acquire skills and necessary training for techniques in haematology, immunology, physiology, endocrinology, molecular biology, toxicology and field biology. Enhance knowledge on biostatistics, bioinformatics, Wild-life tourism and epidemiology to provide wider job prospects in the realm of Zoology.
PSO4	Perform laboratory procedures as per standard protocols in the areas of animal diversity, genetics, biochemistry, molecular biology, physiology, immunology, developmental biology, environmental biology and ethology.
PSO5	Apply ethical principles and knowledge in understanding of Zoology to one's own life and work. Applications of biological sciences in different areas that contributes towards Nation building.

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Semester I Major Zoology

Title of the Course: Indian Knowledge System

SEMESTER	:	I
TITLE OF THE SUBJECT/COURSE	:	Pranishastra and Bharatavarsha
COURSE CODE	:	RJKSZOO111
CREDITS	:	02
DURATION	:	30 HRS

LEARNING OBJECTIVES	
1	To familiarize the learner with the traditional concepts of animal keeping in India.
2	To create awareness in the learner about the ancient texts related to animal sciences.
3	To make the learner understand the importance of animals in traditional art and culture.

COURSE OUTCOMES	AFTER COMPLETING THE COURSE, THE LEARNER WILL BE ABLE TO;	PSO ADDRESSED	BLOOM'S TAXONOMY LEVEL
CO1	Understand the importance of Indian Knowledge system,	1, 4	BT Level I, II ,IV Understand and draw connection
CO2	Understand the approach of Indian traditional systems of animal keeping to human ecological welfare.	1, 4	BT level I Understand ,apply and relate.

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SEMESTER I (THEORY) Indian Knowledge System (IKS)		Lectures	Credit
PAPER I: INDIAN KNOWLEDGE SYSTEM PAPER CODE: RJKSZOO111		30 HR	2
UNIT I: GENERIC IKS		15 HR	
Theory			
1	Importance of Indian Knowledge system.		
2	The IKS classification.		
3	Unique features of IKS.		
UNIT II: SUBJECT SPECIFIC IKS		15 HR	
1	Splendid geographical isolation of India and its unique faunal diversity.		
2	History of animal keeping and veterinary science in India.		
3	Ancient Indian texts on animals.		
4	Cultural significance of animals highlighted by traditional arts and festivals.		
5	Ancient fables from Panchatantra & Hitopadesha and their relevance in modern time.		

References:

- India's Contribution to World Culture – Sudheer Birodkar
- Ancient India – R. C. Majumdar
- Krishi Parashara – Agriculture by Parashara – Asian Agri-History Foundation
- Animal Husbandry in Ancient Indian Literature- Aruna Tomar Kumar, Rajbir Singh, Vir Singh, LAP Lambert Academic Publishing (2013)
- Panchatantra- Vishnu Sharma.
- Hitopadesha- Narayana Pandit.

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SCHEME OF EVALUATION : IKS

TOTAL MARKS	50 MKS
INTERNAL ASSIGNMENT	20MKS
MCQ TEST	30 MKS