

## Syllabus Framework as per LOCF



Hindi Vidya Prachar Samiti's

## Ramniranjan Jhunjhunwala College Of Arts, Science & Commerce (Autonomous College)

Affiliated to  
UNIVERSITY OF MUMBAI

## Syllabus Framework as per LOCF

Program: M.Sc. ZOOLOGY

Program Code: RJSPZOO

*(CBCS 2020-2021)*

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## **Syllabus Framework as per LOCF**

### **PREAMBLE**

The department of Zoology at R.J College was established in the year 1963 and since then has been committed in shaping many illustrious careers and lives. The department was conferred DBT STAR Status by Department of Biotechnology (DBT), Govt. of India. The department has an excellent, highly qualified and dedicated team of teachers to ensure the overall development of the students. We also have well-equipped laboratories for the students to get hands on training on different instruments. The students can avail the facility of departmental library which has a good collection of reference books, scientific journals and Ph.D thesis. The department of Zoology offers courses from Undergraduate to Ph.D.

We have postgraduate program recognised by the University of Mumbai. The students have an opportunity to select one of the following specialisations (elective);

1. M.Sc. Oceanography (Course Code RJSPZOOOC)
2. M.Sc. Animal Physiology (Course Code RJSPZOOAP)

Post graduate program is a two-year course with two semesters each year. Topics in Semester I and II are common for both the specializations. These semesters have been designed to train the students in topics like classical zoology, genetics, evolutionary biology, biochemistry, metabolic regulation, instrumentation and research methodology.

The students should evolve as they progress academically and hence the syllabus should be challenging enough where the learner will be able to apply the knowledge garnered. In the second year of the PG program, there is specialization in semester III and IV. Apart from specialization in Oceanography and Animal Physiology, the students are also introduced to the contents on Biotechnology which introduces the learner to the modern techniques used in industry and research. The subject specializations include the in-depth knowledge of the said disciplines.

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 students are encouraged to participate in various project-based activities. The pedagogy involved include use of ICT, innovative teaching learning methods and hands on training in laboratory techniques. The Guest lectures by the eminent speakers are arranged for the students to expose them to the advances in the different disciplines of Zoology. Training Workshops are organised for the students to acquire the proficiency in niche areas.

## Syllabus Framework as per LOCF

### PROGRAM OUTCOMES OF GENERAL POSTGRADUATE DEGREE PROGRAMS

Program outcome refers to the overall characteristic an individual is supposed to acquire on completion of the two-year degree program in Master of Zoology. The attributes based on acquisition, accumulation, and processing of knowledge of the subject are transferable beyond the discipline and useful in different domains of life.

**Critical Thinking:** Concepts, methodology and ability to formulate questions stimulate the inquisitiveness and critical thinking amongst the students.

**Scientific Temperament:** The nurturing of the young minds to observe and analyse the experiments in the laboratory or a phenomenon occurring around them to obtain a logical scientific explanation for it.

**Analytical Thinking:** The ability to think analytically can be developed by training and practice. The syllabus offers the student to understand the concept and design projects or experiments based on them.

**Domain knowledge:** The domain knowledge is the key to the understanding of advances and complex subject matter.

**Social Ethics:** The students are exposed to different problems caused due to human activity. They learn to conduct themselves and being the part of the surroundings around them without creating a damage to fellow beings.

**Animal Ethics:** The sensitization towards ethical issues associated with use of animals in the laboratory is highlighted and the solutions to overcome it are introduced.

**Problem Solving:** The ability to handle a situation is enhanced in the students by problem solving assignments, case studies, projects

**Environmental Sustainability:** Environment related issues are addressed through workshops, Guest lectures and field studies.

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### Programme Specific Outcome M.Sc Program with Zoology

PSO1:	To comprehend the advances in phylogeny, evolution, genetics, cell biology, molecular biology, biochemistry and instrumentation.
PSO2:	To develop skills required for designing experiments, writing project proposals and execution of research projects.
PSO3:	To acquire training in tools and techniques used in industries and research field. To understand the upstream and downstream process used in industries, large scale production of drugs, metabolites and pharmaceutical products.
PSO4:	To understand the advances in physiology and their applications in the industry, research and diagnostics. The environmental physiology emphasises on interaction of genes and environment, biochemical and molecular adaptations of the animals to the different environments.
PSO5	To understand the advances in oceanography, applications of knowledge in the field of fishery science, meteorological science, Marine research.

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## Zoology PG Core Course Programme Outcome

PROGRAM ME OUTCOME	Semester-I				Semester-II				Semester-III						Semester-IV					
	RJSPZOO101	RJSPZOO102	RJSPZOO103	RJSPZOO104	RJSPZOO201	RJSPZOO202	RJSPZOO203	RJSPZOO204	RJSPZOOBT305	RJSPZOOBT306	RJSPZOOOC307	RJSPZOOOC308	RJSPZOOAP307	RJSPZOOAP308	RJSPZOOBT405	RJSPZOOBT406	RJSPZOOOC407	RJSPZOOOC408	RJSPZOOAP407	RJSPZOOAP408
Critical Thinking	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Analytical Reasoning	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Research Skills	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Problem Solving	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Team Work	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

## **Syllabus Framework as per LOCF**

### **Teaching Learning Process**

The teaching learning process focuses on the overall development of the student and the competency in the core subject. The blended learning enables the learner to learn at their own pace. The course aims at acquiring the analytical skills along with critical thinking and logical interpretation. The practical course ensures the technical competence of the learner and helps to gain the requisite skills required for the employability.

**Some of the salient teaching learning processes are:**

- ❖ Classroom lectures
- ❖ Presentations
- ❖ Group Discussions
- ❖ Workshops
- ❖ Guest Lectures
- ❖ Flipped classrooms
- ❖ Project based learning, quiz, seminars, exhibitions, posters.
- ❖ Practical Designing
- ❖ Technology enabled self-learning
- ❖ Field Trips

The teaching pedagogy is designed to cater to the needs of slow learners as well as challenging learners. The entire program ensures inculcation of human values, animal ethics, environmental awareness for constructive society.