



Syllabus and Courses of Study in Zoology PG Semester-IIIrd Semester

For examinations to be held in 2024-25, 2025-2026, 2026-2027

Maximum Marks	100
Core Course No.	PSZOTC-312
Minimum Pass Marks	External-60, Internal-20
Core Course Title	Research Methodology
Credits	4
Marks (External)	15 marks
Internal Assessment	20 Minor-I 20-Minor-II
Duration of external Exam.	2.5 Hours
Date of BOS	12-06-24

Course Objectives

1. To develop a research proposal and defend both the theoretical and methodological choices, including sampling and measurement.
2. To recognize the value of research ethics and incorporate it into the research process.
3. To evaluate and criticize a journal article that employs one of the field's primary research methods.
4. To create an effective questionnaire that incorporates a variety of different types of survey questions.
5. To create a good research proposal that will act as the springboard for the next semester study he/she will perform.

Learning Outcomes

1. Course Outcome Students have learnt writing a scientific research proposal.
2. Each student has to learn to identify a research problem, outline the objective and hypothesis, select the sampling method and sample, do the related review of literature, figure out the data collection tools under the supervision of the guide/proposal supervisor faculty of the department and submit the proposal at the end of the semester for evaluation.

3. Students will learn writing the research proposal for conducting the study

SYLLABUS

Unit 1 Basics of Research

12 hrs

1.1 Introduction to Research: Concept, Characteristics of good research

1.2 Research Problem : meaning and sources of research problem, Research Process

1.3 Hypothesis: meaning and its types - Null Hypothesis & Alternative Hypothesis. Hypothesis Testing – Logic & Importance

1.4 Review of related literature concept and importance

Unit 2 Types of research

12 hrs

2.1 Types of research: Pure research (Basic, fundamental), Applied research, Quantitative and Qualitative research

2.2 Research Design: Concept and Importance in Research – Features of a good research design – Exploratory Research Design – concept, types and uses, Descriptive Research Designs – concept, types and uses. Experimental Design: Concept of Independent & Dependent variables.

Unit 3 Sampling and Data Analysis

12 hrs

3.1 Data, its types, methods of collecting data, classification and tabulation of data, graphical representation of data, graph and chart – Histogram, frequency, polygon and curve, NPC and its characteristics. Measures of Central Tendency

3.2 Sampling: Concepts of Statistical Population, Sample, Sampling Frame, Sampling Error, Sample Size, Non Response. Characteristics of a good sample. Probability Sample – Simple Random Sample, Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the sample – Practical considerations in sampling and sample size.

Unit 4 Tools and Techniques of Data collection and Field Work Practices

12 hrs

3.1 Sources of Data Collection: Primary and Secondary

3.2 Interview Schedule and Questionnaire

3.3 Interview Method- Types; Selecting Respondents; Rapport; the Interview Guide; the Interview situation; recording.

3.4 Participant Observation and Ways of Interviewing, Ethnographic Field Research

Unit 5 Research Ethics

12 hrs

5.1 Interpretation of Data and Paper Writing – Layout of a Research Paper, Journals in Life Sciences, Impact factor of Journals, When and where to publish ? Ethical issues related to publishing, Plagiarism and Self-Plagiarism.

5.2 Use of Encyclopedias, Research Guides, Handbook etc., Academic Databases for Computer Science Discipline.

5.4 Use of tools / techniques for Research: methods to search required information effectively, Reference Management Software like Zotero/Mendeley, Software for paper formatting like LaTeX/MS Office, Software for detection of Plagiarism

Note for Paper Setting

Examination Theory	Syllabus to be covered in examination	Time allotted for Exam	% weightage (marks)
Minor Test I	upto 20%	1 Hr.	20
Minor Test II	21% to 40%	1 Hr.	20
Major Test	41% to 100%	2Hrs.& 30 mins.	60

- i. Major test will have two sections (A & B)
- ii. Section A is compulsory comprising of 10 questions of 1.5 marks each and be spread Over entire syllabus
- iii. Section B comprises of 6 questions (2 from each unit) from the remaining 3 units and candidate has to attempt one question from each unit (15 marks each).

Books Recommended:-

1. Business Research Methods – Donald Cooper & Pamela Schindler, TMGH, 9th edition
2. Business Research Methods – Alan Bryman & Emma Bell, Oxford University Press.
3. Research Methodology – C.R.Kothari
4. Select references from the Internet

Committee members (External)

1	Prof. (Dr.) Seema Langer Head, Department of Zoology & Dean, Life Sciences, University of Jammu	
2	Dr. N. K. Tripathi, Professor (Retd.) Department of Zoology, University of Jammu	
3	Dr. Surya Partap Singh, Assistant Prof. & Head, Department of Zoology, GDC Basholi	
4	Dr. Shvetambri Jasrotia, Assistant Prof., Department of Zoology, Central University of Jammu	
5	Mr. Munish Sharma Assistant Director Fisheries, Jammu.	
6	Col. (Retd.) Sunil Sambyal ,Biofloc Expert & Entrepreneur	

GOVT. COLLEGE FOR WOMEN, PARADE GROUND, JAMMU-180001, J&K.

(Erstwhile Maharani Mahila College)

Autonomous College affiliated to the University of Jammu

College with Potential for Excellence, 2016



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For examinations to be held in 2024-25, 2025-26 and 2026-2027.**

LAB COURSE I

Course No. PSZOPC-315

Course Title: Research Methodology and Dissertation-I

1. To design a research Proposal
2. To study the various techniques used for data collection (Observation, Interview, Questionnaire)
3. To study different types of A) Data and B) Tabulation of Data
4. To study the various techniques of literature review both published and unpublished
5. To study the different types of sampling techniques
6. To study developing a search strategy and using bibliographic Databases.
7. To study various quantitative research methods. (Descriptive and Experimental)
8. To study the statistical tools for Data Analysis
 - a) Normal Probability Curve and measures of Central tendency
 - b) t- Test
 - c) Chi-Square Test
9. To prepare a review on a selected Topic of Study
10. To differentiate between citation and Bibliography

Note: There will be one practical paper of 50 marks (comprising Lab Course II; based on Course No. 302 and 303). 50% (25 marks) shall be reserved for internal assessment including 20% marks (5 marks) for attendance, 20% (5 marks) for viva and 60% (15 marks i.e., 7 marks for internal assessment and 8 marks for day-to-day performance). In case of the regular students, internal assessment received from the college will be added to the marks obtained by them in the final examination (Major test) and in case of private candidates, the internal assessment marks shall be added proportionately to the marks obtained by them in the major examination in accordance with the statutes/regulations.

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