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Ph.D. Course Work Syllabus

ZOOLOGY

Session 2020-21

Ph.D. Course Work Syllabus of Zoology

Syllabus for Ph.D. Course Work in Zoology (2020-21)			
One Semester			
<p>There are Two papers; each with 100 maximum marks. The candidate must obtain 50% or more marks in each paper independently to qualify in the course work. The answer papers will be assessed independently by two examiners.</p>			
<p>Paper-I: Research Methodology, Advanced Tools & Techniques, Quantitative Data Analyses and Computer Fundamentals</p>			
		Lectures	Marks
A	Research Methodology:	20	25
	Introduction and Scope Research problem: identification, Selection, Formulation of research objectives	2L	
	Research design: Components, Importance, Types	3L	
	Types of data, Data collection - Methods and Tools	2L	
	Research ethics, Institutional ethics committee	2L	
	Plagiarism - Pitfall	2L	
	Patents and IPR: Patent laws, process of patenting a research finding, Copy right, Cyber laws	3L	
	Bibliometrics: Measurement of academic output- Citation Index: Science Citation Index (SCI), h-index, i-10-index. Journal Impact Factor (JIF); Style of Bibliography, Project, research paper and review writing	6L	
B	Advanced Tools & Techniques	20	25
	Microscopic techniques –Electron microscopy and Confocal microscopy	5L	
	Principle, protocol and application of Chromatography – GLC & HPLC, Electrophoresis and its application	5L	

	PCR, Real time PCR, DNA microarray, DNA sequencing	5L	
	Protein microarray and Protein sequencing	5L	
C	Quantitative Data Analyses	20	25
	Hypothesis testing	2L	
	Normal and Binomial distributions and their property	3L	
	Tests of significance: Student t-test, F-test, Chi-square test	5L	
	Correlation and Regression	4L	
	ANOVA – One-way and Two-way, Multiple-range test	6L	
D	Computer Fundamentals	20	25
	Introduction to MS-Office software: MS-Word (Track change)	2L	
	MS-Excel	2L	
	MS-Power Point	2L	
	MS-Access	2L	