

BHARATHIAR UNIVERSITY: COIMBATORE

M.Sc., ZOOLOGY DEGREE COURSE (COLLEGES - CBCS PATTERN)

SCHEME OF EXAMINATION

(For the students admitted during the academic year 2014 – 2015 batch and onwards)

Semester	Subject and Papers		Ins. Hrs/ week	University Examinations				Credits
				Dur. Hrs.	CIA	EXT	Total	
I	Paper I	Animal Physiology & Endocrinology	6	3	25	75	100	4
	Paper II	Cell & Molecular Biology	6	3	25	75	100	4
	Paper III	Animal Biodiversity	6	3	25	75	100	4
	Paper IV	Genetics	6	3	25	75	100	4
	Practical I	(Comprises of Papers I,II, & III)	2	-	-	-	-	-
	Practical II	(Comprises of Papers IV,V, & VI)	2	-	-	-	-	-
	Practical III	(Comprises of Papers VII & VIII)	2	-	-	-	-	-
II	PaperV	Biochemistry & Bioinformatics	6	3	25	75	100	4
	PaperVI	Biophysics & Biostatistics	6	3	25	75	100	4
	Paper VII	Ecology	6	3	25	75	100	4
	Paper VIII	Developmental Biology & Immunology	6	3	25	75	100	4
	Practical I	(Comprises of Papers I,II, & III)	2	4	40	60	100	4
	Practical II	(Comprises of Papers IV,V, & VI)	2	4	40	60	100	4
	Practical III	(Comprises of Papers VII & VIII)	2	4	40	60	100	4
III	Paper IX	Microbiology	6	3	25	75	100	4
	Paper X	Animal Behavior	6	3	25	75	100	4
		Elective I – Entomology Paper I	5	3	25	75	100	4
		Elective II – Paper I	5	3	25	75	100	4
	Practical IV	(Comprises of Papers IX & X)	2	-	-	-	-	-
	Practical V	(Comprises of Papers XI & XII)	2	-	-	-	-	-
		Elective I Practical	2	-	-	-	-	-
	Elective II Practical	2	-	-	-	-	-	
IV	Paper XI	Biotechnology & Genetic Engineering	6	3	25	75	100	4
	Paper XII	Bioinstrumentation & Biological Techniques	6	3	25	75	100	4
	Practical IV	(Comprises of Papers IX & X)	2	4	20	55	75	3
	Practical V	(Comprises of Papers XI & XII)	2	4	20	55	75	3
		Elective I – Entomology Paper II	5	3	25	75	100	4
		Elective I – Entomology Practical	2	4	40	60	100	4
		Elective II Paper II and Elective II – Practical (or) Elective II Project work	2 2 4	3 4 -	25 40 -	75 60 -	100 100 200*	4 4 8
	Total					2250	90	

List of Elective papers(opted by the colleges)		
Elective – II Choose A or B or C	A	Paper I - Environmental Biology Paper I – III Sem. Paper II - Environmental Biology Paper II – IV Sem.
	B	Paper I - Toxicology Paper I – III Sem. Paper II - Toxicology Paper II – IV Sem.
	C	Theory Paper - Research Methodology – III Sem. Research Project for 200 marks – IV Sem.

* For Elective II, if C is opted, Theory Paper – Research Methodology will carry 100 marks, Project work 80% (160 marks) and Viva-voce 20% (40 marks).

Project Guidelines:

1. Internal and external examiners will evaluate the project work and award marks out of 160.
2. Internal and external examiners will conduct viva-voce examinations and award marks out of 40.

Note :

The syllabus for the above papers (except **Core Paper III : Animal Biodiversity and the Elective II – C : Research Methodology**) be the same as prescribed for the academic year 2011-12. The Syllabus for Core Paper III : Animal Biodiversity and the Elective II – C : Research Methodology are furnished below:

PAPER - III ANIMAL BIODIVERSITY

Unit I: Biodiversity and species concept

- Biodiversity - components, types, and significance.
- Species concept, speciation, species richness.
- Biodiversity hot spots in India – significance of Westernghats & Indo-Burma region.

Unit II: Indian biodiversity and Loss of animal biodiversity

- Endemic terrestrial biodiversity of India.
- Marine biodiversity of India.
- Agro biodiversity of India.
- Past rate of Extinction - Geological.
- Human induced extinction.
- Isolation of species
- Endemic and Endangered species.

Unit III: Conservation biology

- In-situ and Ex-situ conservation.
- Project Tiger, project Elephant.
- Biotechnology in conservation.
- IUCN – Red list category.
- Success and failures of conservation.
- Protected area network programme.

Unit IV: Legal aspects in biodiversity conservation

- Forest policy.
- Zoo policy.
- SPCA act.
- Legal instruments relevant to biological diversity in India.
- Animal ethics, ethical committee.
- Discontinuation of dissections in educational institutions.
- CITES.
- Convention on biodiversity.

Unit V: Future strategies for India

- Research impetus.
- Strategies, opportunities, and options.
- Future strategy for conservation of biological diversity.
- Genetically modified organisms (GMOs) promise and danger for biodiversity.
- Institutional mechanism and modalities.

References:

1. Textbook of Biodiversity - K V Krishnamurthy, by Science Publishers.
2. Glimpses of Biodiversity- B.Blosetti.
3. Environmental biodiversity- P.R.Yadav
4. Biodiversity of microbial life- Stanely Reysenbach.
5. Ecology & Env. Biology - Sathyanarayana Books & Allied (P) Ltd.,
6. Biodiversity: An Introduction, 2nd Edition- Kevin J. Gaston, John I. Spicer, Wiley-Blackwell.
7. Agrobiodiversity - David Wood, Jillian M. Lenné, CABI Pub., Nature

Elective II – C: Theory Paper - Research Methodology

Unit I

Topic selection - Planning research – defining objectives - Preparation of work plans. Identification of suitable methodology - Preparation of project proposal – Funding agencies – Student project scheme of TNSCST & TANSCHÉ – Summer Schools – Training in research institutes

Unit II

Collection of literature- News articles – Newsletters – Magazines – Books - Journals. Digital library and search of articles - Key words and search - Internet – Google Scholar – Pub med – Infilibnet – Medline – Agricola – Science direct -Open access Journals - virtual sources - other sources. Short communications –review articles

Unit III

Collection of samples / data – Data analysis – Microsoft Excel – Construction of tables – headings - footer - hypothesis testing – Test of Significance – Tabulation – Presentation of results - Use of SPSS.

Unit IV

Thesis structure –Components - Writing Introduction – review of literature – Materials & Methods – Presentation of results – Discussion of Results based on literature – Arriving conclusions – Briefing of Summary – Arrangement of Bibliography and how to quote reference in thesis - Appendix.

Unit V

Publishing of Articles in news papers /newsletters - Selection of journals – ISSN Number – Peer reviewed Journals – Science citation index – impact factor and importance. Manuscripts preparation for Journals – components – Submission and Publication – reprints and pdf formats. Paper presentation in Conferences.

Bibliography

1. Anderson, Durston & Polle 1970: Thesis and assignment, writing Wiley Eastern Limited
2. Fisher R.A, 1950: Statistical methods of research workers.
3. Freund J E, 1967: Modern elementary statistics, Prentice Hall, Inc. Englewood cliffs, N J.
4. Malter K, 1972: Statistical analysis in Biology, Chapman Hall, London.