

PG & RESEARCH DEPARTMENT OF ZOOLOGY

ALLIED ZOOLOGY

(I B.SC Chemistry & I B.SC Botany)

2024-2025 onwards

Semester	Paper	Title	Inst hrs	Credit	Exam hrs	Marks		Total
						I.A	U.E	
I	Allied Course-I	I -Biology of Invertebrates and Chordates	4	4	3	25	75	100
	Allied Course –II	II -Allied Zoology Practical	3	-	-	-	-	-
II	Allied Course –II	II -Allied Zoology Practical	3	3	3	40	60	100
	Allied Course -III	III –Entrepreneurial Zoology	4	4	3	25	75	100
			14	11	-	-	-	300

A.D.M.COLLEGE FOR WOMEN (AUTONOMOUS), NAGAPATTINAM

ALLIED ZOOLOGY (I B.SC Chemistry& I B.SC Botany)

SEMESTER – I

PAPER –I -BIOLOGY OF INVERTEBRATES AND CHORDATES

Int: 25

Ext:75

Inst hrs: 4

Credit: 4

Learning outcomes :

- Understood the Organization .life history of various groups of invertebrates and chordates.
- Acquired knowledge on the characteristics and adaptations of invertebrates and chordates.

BIOLOGY OF INVERTEBRATES

UNIT –I

Organisation and life history

12 hours

Phylum Protozoa - Paramecium.

Phylum Porifera - Ascon sponge

Phylum Coelenterata - Obelia

UNIT- II

Organisation and life history

12 hours

Phylum Platyhelminthes - Taenia solium

Phylum Aschelminthes - Ascaris

Phylum Annelida - Earthworm

UNIT III

Organisation and life history

12 hours

Phylum Arthropoda - Tiger Prawn

Phylum Mollusca - Freshwater mussel

Phylum Echinodermata - Star fish

BIOLOGY OF CHORDATES

UNIT IV

12 hours

Pisces – Shark – External feature & Respiratory system

Amphibia – Frog – External feature , Excretory & Circulatory system

Reptilia – Calotes – External feature & Structure of Brain.

UNIT V

12 hours

Aves – Pigeon – External feature , Respiratory system & Flight adaptation
Mammalia – Rabbit – Dentition, Digestive system and Urinogenital system.

TEXT BOOK

1. Thangamani,A.,Prasannakumar.S.,Narayanan,L.M., and Arumugam,N.,2014.
A Text Book of Chordates, Saras Publication, Nagercoil. 25th Edition – Pages: 956.
2. Nair,N.C., Leelavathy, S., Soundarapandian, N., Murugan, T., and Arumugam, N. 2010.
A Text Book Of Invertebrates. Saras Publication, Nagercoil. 3rd Edition. ISBN: 978-81-89941-53-6.

REFERENCE BOOKS:

1. Nair,N.C., Leelavathy, S., Soundarapandian, N., Murugan, T., and Arumugam, N. 2010.
A Text Book Of Invertebrates. Saras Publication, Nagercoil. 3rd Edition. ISBN: 978-81-89941-53-6.
2. Jordan,E.L., and Verma,P.S. 2014. Invertebrate Zoology. S.Chand Pub. New Delhi.
ISBN:81-219-0367-X.
3. Prasad,S.N.,and Kashyap,V.,2011.A Text Book of Vertebrate Zoology,New age International (P) LTD.,
Publishers, New Delhi. 14th Edition – Pages:710.

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SEMESTER-II -ALLIED ZOOLOGY PRACTICAL

**(BIOLOGY OF INVERTEBRATES & CHORDATES
AND ENTREPRENEURIAL ZOOLOGY)**

Int: 25

Ext:75

Inst hrs: 3

Credit: 3

I DISSECTION

1. Earthworm- Digestive system and Nervous system
2. Freshwater Mussel- Alimentary canal
3. Fish – Digestive system

II MOUNTING

1. Earthworm - Body setae and Pineal setae
2. Mouthparts - Cockroach, Honey Bee and Mosquito
3. Shark - Placoid scales

III SPOTTERS

Invertebrata

Paramecium caudatum – Entire, Paramecium – Conjugation, Sycon sponge, *Obelia geniculata* - Entire
Taenia solium – Entire, Scolex, Neries, Pila, Star fish

Chordata

Shark, Flying fish, Hyla, Bufo, Calotes, Cobra, Pigeon, Bat, Rabbit

IV. Entrepreneurial Zoology

1. Earthworm, Honey Bee, Lac insect, Silk Insect, Catla, Rohu, Mirgal,
Tiger Prawn, Pearl oyster and Hen

V. Products of Animals

Vermicompost, Honey, Lac, Silk, Pearl, Hen egg, Fish liver oil

A record of lab work should be maintained and submitted at the time of practical examination for valuation.

TEXT BOOK

1. Shukla & Upadhyay, 2014. Economic Zoology, 5th edn. Rastogi Publication, Meerut New Delhi.
2. Gupta, P.K., 2008. Vermicomposting for sustainable agriculture, 2nd Edition, Agrobios, India

REFERENCE BOOKS:

1. **Ramasamy, P.**, 1992. Diseases of Shrimps in aquaculture systems, Vanitha publication
2. **Arumugam, N.** Aquaculture Saras Publications.
3. **Shukla, G.S.** and **Upadhyay V.B.** (1997) Economics Zoology, Rastogi publications, Meerut.
4. **Morse, R.A.** 1990. The ABC and XYZ of Bee Culture 40th Edition A.I. Root & Co., Ohio.
5. **Manjuyadav.,**(2003).Economic Zoology ,Discovery Publishing House. New Delhi

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ALLIED ZOOLOGY

PAPER – III - ENTREPRENEURIAL ZOOLOGY

Int: 25

Ext: 75

Inst hrs: 4

Credit : 4

Learning outcomes :

- Acquired knowledge on various branch of Zoology available to get the self employment opportunity .
- To generate employments,
- To motivate to become entrepreneurs.

Unit-I

12 hours

Vermiculture-

Biology of Earthworm – Vermicomposting - Required Conditions – Methods (pit and heap) – Advantages – Economic importance of vermiculture

Unit-II

12 hours

Apiculture – Species of Honey Bee, Types of Honey bee – Newton’s Bee hive – Care and Management – Honey extraction and Honey extracting equipments (Honey extractor, Smoker, Queen excluder, Drone excluder, Bee veil. – Nutritive and Medicinal value of Honey, Advantages –Economic importance of Apiculture

Unit – III

12 hours

Lac Culture – Life cycle of Lac insect - Economic importance of Lac.

Sericulture: Life cycle of *Bombyx mori* – Economic importance of silk.

Unit – IV

12 hours

Aquaculture – Construction and Management of Pond. Culture practices of Common Carp. Shrimp Culture – *Penaeus mondon*- Pearl culture

Unit – V

12 hours

Poultry farming – Types of Poultry – Care and Management – Poultry nutrition – Diseases and their management – Composition and Nutritive value of egg- Economics of Poultry production.

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1. Shukla & Upadhyay, 2014. Economic Zoology, 5th edn. Rastogi Publication, Meerut New Delhi.
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