

HAJEE KARUTHA ROWTHER HOWDIA COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University, Madurai.)

Re-Accredited with A++ Grade by NAAC (3rd Cycle)

Uthamapalayam - 625 533.



DEPARTMENT OF ZOOLOGY

MASTER OF SCIENCE - ZOOLOGY

PART IV-SYLLABUS

Choice Based Credit System – CBCS

(As per TANSICHE)

With

Outcome Based Education (OBE)

(Academic Year 2023 -2025)

Semester - II

Course Category	Course Code	Course Title	Hrs	CIAE	TEE	Max Marks	Credits
Part – IV	23PZYSE21	Poultry Farming	4	25	75	100	2

Semester - III

Course Category	Course Code	Course Title	Hrs	CIAE	TEE	Max Marks	Credits
Part – IV	23PZYSE31	Dairy Farming	4	25	75	100	2
	23PZYIS31	Internship / Industrial Activity	-	-	-	-	2

Semester - IV

Course Category	Course Code	Course Title	Hrs	CIAE	TEE	Max Marks	Credits
Part – IV	23PZYSE41	Animal Behaviour	4	25	75	100	2

2.	http://www.asci-india.com/BooksPDF/Small%20Poultry%20Farmer.pdf
3.	https://nsdcindia.org/sites/default/files/MC_AGR-Q4306_Small-poultry-farmer-.pdf
4.	http://ecoursesonline.iasri.res.in/course/view.php?id=335
5.	https://swayam.gov.in/nd2_nou19_ag09/preview

Mapping with Programme Outcomes:

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10
CO 1	3	3	3	3	3	2	3	2	3	2
CO 2	3	3	3	3	3	3	3	2	2	3
CO 3	3	3	3	2	3	2	2	3	3	3
CO 4	3	3	2	2	3	2	2	3	3	2
CO 5	3	2	3	3	3	2	3	2	2	3

Strong-3

Medium-2

Low-1

Level of Correlation between PSO's and CO's

CO /PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3

Strong-3

Medium-2

Low-1

1.	The Veterinary Books for Dairy Farmers by Roger W. Blowey.
2.	Hand Book of Dairy Farming by Board Eiri.
3.	Handbook of animal husbandry TATA, S.N ed., ICAR 1990
4.	Prabakaran, R. 1998. Commercial Chicken production. Published by P. Saranya, Chennai.
5.	Hafez, E. S. E., 1962. Reproduction in Farm Animals, Lea & Fabiger Publisher
Web Resources	
1.	https://agritech.tnau.ac.in/farm_enterprises/Farm%20enterprises_%20Dairy%20unit.html
2.	https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22Tata,+S.N.,+ed%22

Mapping with Programme Outcomes:

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10
CO 1	2	3	1	1	3	3	2	3	1	2
CO 2	2	3	3	3	2	3	2	1	3	3
CO 3	2	3	3	3	3	3	3	3	3	2
CO 4	2	3	3	3	2	2	1	1	2	2
CO 5	3	3	3	2	3	2	3	1	3	3

Strong-3 Medium-2 Low-1

Level of Correlation between PSO's and CO's

CO /PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	1	1	3
CO2	2	3	3	3	2
CO3	2	3	3	3	3
CO4	2	3	3	3	2
CO5	3	3	3	2	3

Strong-3 Medium-2 Low-1

Course Code	Course Title	Category	Credits	Hours	Marks		
					CIAE	TEE	Total
23PZYSE41	ANIMAL BEHAVIOUR	SEC	2	4	25	75	100

Learning Objectives		
L1	Students should understand basic concepts in Animal behaviour.	
L2	Students should be aware of ecology and the animals in their respective environment	
UNIT	Contents	No. of Hours
I	Genetic material, Genes and chromosomes, Genetic variation, Single and Polygenic inheritance of behaviour, Heritability of behaviour, Natural selection and behaviour, Frequency distribution of phenotypes, Darwinian fitness, Evolution of adaptive strategies.	12
II	Sexual selection, Altruism, Sexual strategy and social organisation, Animal perception, Neural control of behaviour, Sensory processes and perception, Visual adaptations to unfavourable environments.	12
III	Coordination and Orientation, Homeostasis and Behaviour, Physiology and Behaviour in changing environments, Animal Learning, Conditioning and Learning, Biological aspects of learning, Cognitive aspects of learning.	12
IV	Instinct and learning, Displacement activities, Ritualization and Communication, Decision making behaviour in Animals, Complex behaviour of honey bees, Evolutionary optimality, Mechanism of Decision making. The mentality of Animals: Languages and mental representation, non-verbal communication in human, mental images, Intelligence, tool use and culture, Animal awareness and Emotion.	12
V	Organization of circadian system in multicellular animals; Concept of central and peripheral clock system; Circadian pacemaker system in invertebrates with particular reference to Drosophila; Photoreception and photo-transduction; Molecular bases of seasonality; The relevance of biological clocks for human welfare - Clock function (dysfunction); Human health and diseases - Chronopharmacology, chrono medicine, chronotherapy.	12
	Total	60
Course Outcomes		Knowledge Level
CO	On completion of this course, students will	
1	Recall and record genetic basis and evolutionary history of behaviour.	K1,K2,K3,K4,K5
2	Analyse and identify innate, learned and cognitive behaviour and differentiate between various mating systems.	K1,K2,K3,K4,K5
3	Classify movement and migration behaviours and explain environmental influence upon behaviour.	K1,K2,K3,K4,K5,K6
4	Explore neural, hormonal, and genetic mechanisms underlying animal behaviour.	K1,K2,K3,K4,K5,K6
5	Examine the role of learning, cognition, and communication in	K1,K2,K3,K4,K5,K6

	shaping adaptive behaviour across different species.	
Textbooks		
1.	Michael D. Breed and Janice Moore, 2012. Animal Behaviour, Academic Press, USA, 359pp.	
2.	Aubrey Manning and Martin Stamp Dawkins, 2012. An Introduction to Animal Behaviour, 6th Edition, Cambridge University Press, UK. 458pp.	
3.	Davis E.Davis, 1970. Integral Animal Behaviour, Mac Millan Company,London, 118pp.	
4.	Jay, C. Dunlap, Jennifer, J. Loros, Patricia J. De Coursey (ed). 2004. Chronobiology Biological time Keeping, Sinauer Associates Inc, Publishers, Sunderland,MA	
Reference Books		
1.	David McFarland, 1985.Animal Behaviour, Longman Scientific & Technical, UK.576pp.	
2.	Harjindra Singh, 1990. A Text Book of Animal Behaviour, Anomol Publication, 293pp.	
3.	HoshangS.Gundevia and Hare Goving Singh, 1996. Animal Behaviour, S.Chand &Co, 280pp.	
4.	J. P 2010, Fundamentals of Animal Behaviour, Atlantic, 587pp	
5.	Shukla, J. P 2010, Fundamentals of Animal Behaviour, Atlantic, 587pp.	
6.	Vinod Kumar, 2002. Biological Rhythms. Narosa Publishing House, Delhi.	

Mapping with Programme Outcomes:

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10
CO 1	3	3	2	2	1	1	2	2	1	1
CO 2	3	2	1	1	3	1	2	2	1	2
CO 3	2	1	2	1	3	3	2	3	2	3
CO 4	3	3	3	3	2	3	1	1	1	2
CO 5	3	1	1	1	2	1	1	3	2	3

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CO2	3	2	1	1	3
CO3	2	1	2	1	3
CO4	3	3	3	3	2
CO5	3	1	1	1	2

Strong-3 Medium-2 Low-1