



Anekant Education Society's

**Tuljaram Chaturchand College
of Arts, Science, Commerce, Baramati**
(Autonomous)

DEPARTMENT OF ZOOLOGY

(Faculty of Science and Technology)

Minutes of Board of Studies Meeting No.08

Date of Meeting: 08/04/2023

Venue: Department of Zoology

April, 2023

Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati
(Autonomous)

Department of Zoology

AGENDA OF THE MEETING

The agenda of the meeting included the following subjects:

1. To confirm the minutes of previous BoS meeting held on 06th October 2022.
2. To prepare and approve curriculum of S.Y.B.Sc. (Zoology) Semester-III (2022 pattern) to be implemented from the academic year 2022-2023.
3. To prepare and approve curriculum of M.Sc.-II (Zoology) Semester-III (2022 pattern) to be implemented from the academic year 2022-2023.
4. To discuss amendments (if any) in the curricula (2022 pattern) finalized in earlier meetings.
5. To discuss & finalize the syllabi of new certificate courses.
6. To discuss and incorporate the relevant feedbacks of the stakeholders (students, teachers, parents, alumni and employers) in the curriculum.
7. Any other issue with the permission of the chair.



Head,
Department of Zoology

Anekant Education Society's
Tuljaram Chaturchand College, Baramati
(Autonomous)
Department of Zoology
List of BoS Members

The following internal and external BoS members attended the Board of Studies (Zoology) meeting through offline mode held on 08th April, 2023.

Sr. No.	Name of Member	Designation
1.	Mr. Sandip P. Chordiya Assistant Professor, Department of Zoology, T. C. College, Baramati	Chairman
2.	Dr. Vitthal B. Nale Assistant Professor, Department of Zoology, T. C. College, Baramati	Internal Member
3.	Dr. Deepali M. Sangale Assistant Professor, P.G. Coordinator, Department of Zoology, T. C. College, Baramati	Internal Member
4.	Dr. G. D. khedkar, Professor, Dr. B. A. M. University, Aurangabad	External Member, other University
5.	Dr. Yogesh A. Karpe Scientist B, Agharkar Research Institute, Pune	External Member, Research & Industry
6.	Mr. Kishor U. More Assistant Professor, Department of Zoology, T. C. College, Baramati	Internal Invitee Member
7.	Mr. Mayur S. Shitole Assistant Professor, Department of Zoology, T. C. College, Baramati	Internal Invitee Member
8.	Ms. Tamanna S. Tamboli, (M.Sc.-II)	PG Student
9.	Mr. Shubham Ghadage, (M.Sc.-II)	PG Student

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MINUTES OF THE MEETING

As per the Notice no. 456, dated 18/03/2023, issued by the college, the meeting of Board of Studies in Zoology was successfully held on 08th April, 2023 at 11:00 am in the Department of Zoology, T. C. College, Baramati. The meeting was conducted in the department of Zoology, adhering to the guidelines and protocols set by the college under the guidance of **Mr. Sandip P. Chordiya**, Chairman of the Board of Studies in Zoology. The meeting commenced with a warm welcome to all the esteemed members, followed by a brief introduction of the meeting's objectives

During the meeting, fruitful discussions were held on the items mentioned in the circulated agenda. We are pleased to inform you that the following resolutions were made during the BoS meeting.

01) To confirm the minutes of previous BoS meeting held on 06th October 2022.

Resolution # 01 Minutes of the previous meeting were read by Mr. Sandip Chordiya and same were confirmed unanimously.

02) To prepare and approve curriculum of S.Y.B.Sc. (Zoology) Semester-III (2022 pattern) to be implemented from the academic year 2022-2023.

Resolution # 01: Curriculum of **S.Y.B.Sc. (Zoology) Semester-III (2022 pattern)** was discussed thoroughly.

Second Year						
S.Y.B.Sc	2022	III	USZL 231	Animal Systematics and Diversity -III	Theory	03
S.Y.B.Sc	2022	III	USZL 232	Applied Zoology-I	Theory	03
S.Y.B.Sc	2022	III	USZL 233	Zoology Practical-III	Practical	02

Summary of the discussion is as follows and as per discussion, the curriculum was finalized and accepted unanimously.

USZL 231: Animal Systematics and Diversity-III

UNIT	SUB UNITS	PROPOSED SYLLABUS	SUGGESTIONS FROM BOS MEMBERS
1.	Salient features and classification upto classes of the following: (any two examples from each class)		No suggestions.
	1.1	Arthropoda: - Crustacea, Arachnida, Insecta, Myriapoda and	

		Onychophora.	
	1.2	Mollusca: - Aplacophora, Gastropoda, Scaphopoda, Pelecypoda, and Cephalopoda	
	1.3	Echinodermata:- Asteroidea, Ophuroidea, Holothuria, Echinoidea, and Crinoidea	
2.	General topics:		
	2.1	Metamorphosis, Mouthparts, Mimicry, Bioluminescence and Economic importance w. r. t. Insects	2.1 Insects: Metamorphosis, Mouthparts, Mimicry, Bioluminescence and Economic importance
	2.2	Nervous system and camouflage in Cephalopods	2.2 Cephalopods: Nervous system and camouflage
	2.3	Autotomy and regeneration in Echinoderms, Water vascular System and locomotion in Echinoderms	2.3 Echinoderms: Autotomy and regeneration, Water vascular System and locomotion (Changes suggested by Dr. G. D. Khedkar)
3.	Study of Cockroach:		Biology of Cockroach (Changes suggested by Dr. G. D. Khedkar)
	3.1	Systematic position, habits and habitat	Systematic position, habit and habitat (Changes suggested by Dr. G. D. Khedkar)
	3.2	External morphology and sexual dimorphism	No suggestions
	3.3	Digestive system.	
	3.4	Circulatory system	
	3.5	Respiratory system	
	3.6	Nervous system	Merge with 3.6 Sense organ (Changes suggested by Dr. G. D. Khedkar & Dr. Yogesh Karpe)
	3.6	Reproductive system	Change subunit number as 3.5 (Changes suggested by Dr. G. D. Khedkar & Dr. Yogesh Karpe)
	3.7	Sense organs	3.6 Nervous system & Sense organ (Changes suggested by Dr. G. D. Khedkar & Dr. Yogesh Karpe)

USZL 232: Applied Zoology-II

UNIT	SUB UNITS	PROPOSED SYLLABUS	SUGGESTIONS FROM BOS MEMBERS
1.	Fisheries:		
	1.1	An introduction to fisheries	An introduction to fisheries & aquaculture (Changes suggested by Dr. G. D. Khedkar)

	1.2	Different types of ponds used in fishery: Nursery Pond, Rearing Pond, Stock Pond	Different types of ponds used in fish farming: Nursery pond, rearing pond, stock pond (Changes suggested by Dr. G. D. Khedkar)
	1.3	Habit, habitat and culture methods of following freshwater forms: a) Rohu (<i>Labeo rohita</i>) b) Catla (<i>Catla catla</i>) c) Mrigal (<i>Cirrhinus mrigala</i>)	Introduction to composite fish farming of Indian major carps: Culture method, biology of fish (Rohu, Catla & Mrigal), seed rearing, food & feeding mechanism (Changes suggested by Dr. G. D. Khedkar)
	1.4	Fish preservation technique: a) Chilling b) Freezing c) Salting d) Canning	Fish transport & preservation: a) Salting b) Chilling (Use of insulated containers) c) Freezing d) Canning (Changes suggested by Dr. G. D. Khedkar)
2.	Pearl Culture:		Freshwater pearl culture: (Changes suggested by Dr. G. D. Khedkar)
	2.1	Introduction <ul style="list-style-type: none"> • Introduction to pearl culture • Global and national status of pearl culture • Significance of pearl culture 	
	2.2	Soil and water management <ul style="list-style-type: none"> • Soil and water quality standards • Soil and water quality management: Cat clay/pyrite soil, seepage and its control, zero water exchange system, water filtration devices, aeration, chlorination, ozonization and radiation. • Organic and inorganic fertilizers 	Soil and water management <ul style="list-style-type: none"> • Soil and water quality standards • Soil and water quality management: Cat clay/pyrite soil • Seepage and its control • Zero water exchange system • Water filtration devices, aeration, chlorination, ozonization and radiation. • Organic and inorganic fertilizers (Changes suggested by Dr. G. D. Khedkar)
	2.3	Oyster morphology and anatomy <ul style="list-style-type: none"> • Morphology • Internal anatomy: Alimentary canal and associated structure 	Morphology and biology of <i>Lamellidians</i> spp. <ul style="list-style-type: none"> • Morphology • Anatomy: Alimentary canal and associated structure (Changes suggested by Dr. G. D. Khedkar & Dr. Yogesh Karpe)
	2.4	Formulation and preparation of artificial feeds for larval rearing	
	2.5	Implantation techniques in Pearl Culture <ul style="list-style-type: none"> • Pearl oyster Surgery and Precautions • Half round Pearl culture • Spherical Pearl implantation • Graft tissue preparation • Nucleus implantation • Beads insertion 	Implantation techniques in Pearl Culture <ul style="list-style-type: none"> • Surgical procedures in pearl culture • Beads insertion • Nucleus implantation • Graft tissue preparation (Changes suggested by Dr. G. D. Khedkar)

		Post-operative care and marketing <ul style="list-style-type: none"> • Post-operative care. Precautionary measures of Pearl Culture • Quality improvement • Caring of pearl oyster • Harvesting of Pearl • Sorting of Pearl • Marketing and economics concerned with Pearl Culture 	<ul style="list-style-type: none"> • Replace the ‘Caring of pearl oyster’ by Caring of implanted bivalve (Changes suggested by Dr. G. D. Khedkar)
3.	Agricultural Pests and their control:		Integrated pests management in crops (Changes suggested by Dr. Yogesh Karpe)
	3.1	An introduction to Pest, types of pests (agricultural, household, stored grain, structural, veterinary, forestry and nursery)	Introduction to insect pests in agricultural crop. Types of pests (agricultural, household) (Changes suggested by Dr. Yogesh Karpe)
	3.2	Major insect pests of agricultural importance (Marks of identification, life cycle, nature of damage and control measures) a) Jowar stem borer b) Rice weevil	Remove the entire subunit 3.2 (Changes suggested by Dr. V. B. Nale)
	3.3	Non insect pest: Rats, Crabs, Snails and Birds	Remove the entire subunit 3.3 (Changes suggested by Dr. G. D. Khedkar & Dr. V. B. Nale)
	3.4	Pest control practices in brief: Physical control, Mechanical control, Chemical control, biological control	Pest control practices in brief: Physical control, Mechanical control, Biocide based control (2-3 examples), biological control (Pheromones, traps and others) (Changes suggested by Dr. G. D. Khedkar)
4	Dairy Science:		Introduction to dairy science
	4.1	Dairy development in India Role of dairy development in rural economy, employment opportunities	4.1 Role of dairy development in rural economy 4.2 Study of important Indian cattle breeds used in dairy: Deoni, Khillari, Red Kandhari, Malvi, Hariyana, Nagpuri & Murrha.
	4.2	Dairy Processing Filtration, cooling, chilling, clarification, pasteurization, freezing	4.3 Exotic breeds: Jersey and Holstein 4.4 Milk Processing technique:
	4.3	Milk and milk products Composition of milk Types of milk: C. Buffalo milk and Cow milk (a1 and a2) D. Whole milk and toned milk	<ul style="list-style-type: none"> • Composition of milk and quality parameters • Cleanliness & hygiene of milk production • Filtration and pasteurization • Cooling, chilling, packaging &
	4.4	Indian Cattle breeds : Malvi,	

	Hariyana, Deoni, Red sindhi and Khillari	storage
4.5	Exotic breeds: Jersey and Holstein	4.5 Milk and milk products Composition of milk Types of milk: A. Buffalo milk and Cow milk (a1 and a2) B. Whole milk and toned milk (Changes suggested by Dr. G. D. Khedkar, Dr. Yogesh Karpe, Dr. D. M. Sangale & Dr. V. B. Nale)

USZL 233: Zoology Practical-III

Sr. No.	SUGGESTED TITLE OF THE PRACTICAL	SUGGESTIONS FROM BOS MEMBERS
1	To study the classification up to class with reasons of the following: Phylum Arthropoda- Butterfly, Scorpion. Phylum Mollusca- Pila, Octopus. Phylum Echinodermata – Sea star, Feather star.	Classification of following taxa to their class level with reasons: Phylum Arthropoda- Butterfly, Scorpion. Phylum Mollusca- Pila, Octopus. Phylum Echinodermata – Sea star, Feather star. (Changes suggested by Dr. G. D. Khedkar)
2	Culturing of cockroach (Activity based).	Use appropriate suitable word for culturing (Changes suggested by Dr. G. D. Khedkar)
3	Study of external morphology and sexual dimorphism and digestive system of cockroach	Study of morphology, sexual dimorphism and digestive system of cockroach (Changes suggested by Dr. Yogesh Karpe)
4	Study of nervous system of cockroach	
5	Study of Male & Female Reproductive system of cockroach	Study of reproductive system of cockroach (Changes suggested by Dr. Yogesh Karpe)
6.	Temporary / Permanent mountings of a) Cornea b) Thoracic spiracles c) Gizzard	
7.	Identification, Classification and study of habit, habitat and economic importance of the following a) Rohu b) Catla c) Mrigal	Taxonomic classification, habit and economic importance of following fishes: a) Rohu b) Catla c) Mrigal (Changes suggested by Dr. G. D. Khedkar)
8.	Study of insect pests with respect to marks of identification, nature of damage and economic importance a) Jowar stem borer	Study of insect pests with respect to marks of identification, nature of damage and control measures of: a) Jowar stem borer

	b) Rice weevil	b) Cotton ball worm (Changes suggested by Dr. G. D. Khedkar, Dr. V. B. Nale, Mr. Kishor More & Mr. M. S. Shitole)
9.	Extraction of casein from milk and its confirmatory test.	
10.	Measurement of density of milk using different samples by Lactometer	
11.	Estimation of primary productivity in aquatic ecosystem by using Light and dark bottle method.	
12	Submission of short project report on Economics of Fishery/Agricultural pests/ Pearl culture/Dairy (Activity based practical) (with necessary pictures).	Submission of short project report on Economics of Aquaculture/ Pearl culture/Dairy (Activity based practical). (Changes suggested by Dr. G. D. Khedkar & Dr. V. B. Nale)
13.	Compulsory visit to Biodiversity spot/Fishery farm/Dairy farm /Aquaculture and submit report of the same.	Compulsory visit to Biodiversity spot /Dairy farm /Aquaculture farm and submission of detailed visit report is compulsory. (Changes suggested by Dr. G. D. Khedkar & Mr. S. P. Chordiya)

03) To prepare and approve curriculum of M.Sc. (Zoology) Semester-III (2022 pattern) to be implemented from the academic year 2022-2023.

Resolution # 03: Curriculum of M.Sc. (Zoology) Semester-III (2022 pattern) was discussed thoroughly and as per discussion, the curriculum was finalized and accepted unanimously. Finalised copy of the syllabus is submitted to academic council.

M.Sc. II						
M. Sc.	2022	III	PSZO 231 A / B / C	A) Entomology- I / B) Animal Physiology- I / C) Genetics- I	Theory	04
M. Sc.	2022	III	PSZO 232	Physiology, Biochemistry and Ecology of Insects	Theory	04
M. Sc.	2022	III	PSZO 233	Reproductive Physiology, Histology and Histochemistry of Mammals	Theory	04
M. Sc.	2022	III	PSZO 234	Economic Zoology	Theory	04
M. Sc.	2022	III	PSZO 235 A / B / C	Zoology Practical - V Practicals Corresponding to PSZO 231 A / B / C, & PSZO 232	Practical	04
M. Sc.	2022	III	PSZO 236	Zoology Practical - VI Practicals Corresponding to PSZO 233, PSZO 234	Practical	04
			SD 31	Skill Development		02

04) To discuss & approve the curriculum of new certificate courses.

Resolution #04: There was not any proposed certificate course.

05) To discuss amendments (if any) in the curriculum (F.Y.B.Sc. Sem-II and M.Sc. Sem-II) finalized in previous meeting.

Resolution # 04: There were no any changes in the previously defined syllabi.

06) To discuss and incorporate the relevant feedbacks of the stakeholders (students, teachers, parents, alumni and employers) in the curriculum.

Resolution # 05: All the suggestions from feedback were discussed thoroughly and relevant suggestions were accepted unanimously.

07) Any other issue with the permission of the chair

There was no any incidental issue. Hence, the meeting was concluded with vote of thanks.

The vote of thanks was proposed by Dr. Vitthal Nale.

**Chairman
Board of Studies**

**IQAC
Coordinator**
Coordinator
Internal Quality Assurance Cell
Tuljaram Chaturchand College of
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Principal
Prindpal
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