## The agenda of the meeting

• Starting of new courses if any.

• Change of syllabus for the academic year 2025-26 if any.

• Preparing 3<sup>rd</sup> and 4<sup>th</sup> semester UG syllabus as per the credit patterns model program structure given by the University.

Preparing the Panel of Examiners for both PG & UG.

(Basavarajappa, S.) Chairman, BOS in Zoology

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Department of Zoology
University of Mysore

Manasagangothri MYSORE - 570 006

#### ANNEXURE - 1

#### PROCEEDINGS OF THE BOARD OF STUDIES IN ZOOLOGY (PG & UG) - May, 2025

Chairman welcomed all the Board of Studies members to the meeting and following agenda were discussed and approved.

- 1. There was no new courses started.
- 2. There was no changes made for PG course in Zoology retained the same for the academic year 2025-2026.
- 3. Prepared III and IV Semester B.Sc., (UG) syllabus as per the credit patterns model program structure given by the University of Mysore is discussed and finalized both for theory and practical's and authorized the BOS Chairman to submit to the University.
- 4. Panel of examiners for both PG and UG in Zoology list is prepared.

At the end of the meeting, chairman, BOS in Zoology thanked all the members for their presence and inputs for the successful conduct of the meeting.



#### DEPARTMENT OF STUDIES IN ZOOLOGY

**Dr. S. Basavarajappa**Professor
Chairman, BOS in Zoology

19th May, 2025

Proceedings of the Board of Studies in Zoology (UG & PG) held on 19<sup>th</sup> May, 2025 at 11.00 AM at Physiology Laboratory, DOS in zoology, University of Mysore, Manasagangotri, Mysore-6.

#### **Members Present**

1. Prof. S. Basavarajappa Chairman 2. Prof. M. Bhagya Member 3. Prof. S.S. Malini Member 4. Prof. M.S. Krishna Member 4. Prof. V. Shakunthala Member 5. Prof. Kemparaju, K. Member 5. Prof. Leelavathi, N.K. Member 6. Prof. Prasanna, K.S. Member 7. Prof. Latha, M. Member 8. Prof. S.V. Sathish Member

#### **Members Not Present**

1. Prof. K. Gopal Marate (Retired)

Chairman welcomed all the members for the meeting. Agenda discussed during the BOS meeting is enclosed in Annexure -1.

# UNIVERSITY OF MYSORE DEPARTMENT OF STUDIES IN ZOOLOGY

B.Sc., III AND IV SEMESTER SYLLABUS FOR THE ACADEMIC YEAR 2025-2026

#### **ZOOLOGY: III SEMESTER**

#### BIOCHEMISTRY AND PHYSIOLOGY

**Theory Credits: 03** 

 $Hrs/Week \times 15 = 45 hours$ 

Unit-I.

15 Hrs.

- Carbohydrates: General properties and classification. Biological importance of-Monosaccharaides (glucose), Oligosaccharides (sucrose, maltose and lactose), Polysaccharides (homopolysaccharides-starch and heteropolysaccharides-heparin, glucoronic acid and hyaluronic acid).
- Proteins: General Properties of Proteins. Elementary classification of amino acids. Essential and Non-essential amino acids. Levels of organization in proteins (primary, secondary, tertiary and quaternary structure with hemoglobin as example). Biological importance of proteins.
- Lipids: Structure and Biological importance of Saturated and Unsaturated fatty acids, Tri-acylglycerols, Phospholipids, Glycolipids and Steroids. Lipid profile in blood, LDL, VLDL and HDL.
- Enzymes: Nomenclature and classification. Properties of enzymes. Mechanism of enzyme action (induced fit theory). Clinical importance of enzymes.
- Nucleic acids: Biological importance of Nucleic acids Structure of DNA (Watson and Crick model). Types of RNA and Clover leaf model of RNA.
- Vitamins: Sources, biological role and deficiency diseases of Fat soluble (A, D, E, K) and Water soluble vitamins (B-complex and Vitamin C).

UNIT-II. 15 Hrs.

• Homeostasis: Definition and significance of water, glucose and salt balance.

- Osmoregulation: Osmoconformers and osmoregulators. Osmoregulation in shark, marine and freshwater teleosts and terrestrial mammals (Kangaroo rat and Camel).
- Thermoregulation: Definition of ectotherm, endotherms, poikilotherms, Homeotherms and heterotherms. Physiology of temperature compensation in poikilotherms and homeotherms. A note on physiological changes during aestivation and hibernation. Causes of thermal deaths.
- **Digestion:** Hunger, appetite and satiety. Digestion and absorption of carbohydrates, proteins and lipids. Digestive hormones.
- Respiration: Physiology of respiration exchange of gases; Transport of oxygen, oxygen dissociation curve-Bohr's effect. Transport of carbon dioxide chloride shift, respiratory quotient; Types of respiration-(aerobic and anaerobic)-definition with examples. Cellular respiration: Glycolysis, Kerb's cycle, oxidative phosphorylation, energy budget.

UNIT-III.

- Circulation: Introduction to circulatory system. Structure and functions of human heart, regulation of heart beat, blood pressure, mechanism of blood clotting.
- Nitrogen Excretion: Types of nitrogen excretion- Definition with examples for ammonotelism, ureotelism, uricotelism and gaunotelism- in relation to water economy.
- Ornithine cycle. Physiology of urine formation in man (Ultra filtration, Tubular reabsorption, Tubular secretion).
- Neurophysiology: Types of neurons. Structure of multipolar neuron and neurosynapses. Membrane potentials (resting and action), Axonic conduction and synaptic transmission of nerve impulses.
- Muscle Physiology: Types of muscles- Morphological (Striated and non-striated) and functional (voluntary and involuntary muscle). Neuro-muscular junction.

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Structure and mechanism of contraction and relaxation of skeletal muscle-sliding filament theory. Contractile and regulatory proteins for muscle contraction.

#### ZOOLOGY: PRACTICAL – III BIOCHEMISTRY AND PHYSIOLOGY

**Practical Credits: 02** 

4hrs/week X 15=60 Hrs.

- 1. Qualitative analysis of Carbohydrates. (Any five tests)
- 2. Qualitative analysis of Proteins. (Any four tests)
- 3. Qualitative analysis of Lipids. (Any three tests)
- 4. Estimation of proteins- Biuret method.
- 5. Vitamins: Sources & Effects of Fat (A, D, E & K) and Water soluble vitamins (B complex & C).
- 6. Salivary amylase activity on starch
- 7. Dehydrogenase activity in milk.
- 8. Detection of nitrogenous excretory wastes: Ammonia, urea and uric acid. (Ammonia- Nessler's test, Urea- Urease test and Uric acid- Follin's test).
- Detection of abnormal excretion of glucose, albumin and creatinine.
   (Glucose- Benedict's test, albumin- Heller's ring test, Creatinine- Jaffe's test).
- 10. Blood typing- A, B, AB, O and Rh factors in given human blood samples using antisera.
- 11. Preparation of haematin crystals.
- 12. Study of Human Heart beat using Stethoscope-Demonstration.
- 13. Study of Human Blood Pressure using Sphygmomanometer-Demonstration.
- 14. Study of Total RBC count-Demonstration.
- 15. Study of different types of WBC-Demonstration.

#### References

- 1. Principles of Biochemistry by Lehninger.
- 2. Animal Physiology by M. P. Arora.

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- 3. Chordate Zoology and Animal Physiology by Jordan and Verma.
- 4. Comparitive Animal Physiology by William Hoar.
- 5. Biochemistry by Harper.
- 6. Biochemistry by U. Sathyanarayana.
- 7. Book of Physiology by Guyton.

## BIOCHEMISTRY AND PHYSIOLOGY SCHEME OF PRACTICAL EXAMINATION

Time: 3 Hrs Max. Marks: 40

1. Conduct any two tests for the given biomolecule and report. (Practical 1 to 3).

Any one major physiology experiment.

(By lots from Practical's 6 to 9).

3. Any one minor physiology experiment. (By lots from Practical's 10 &11).

4. Identify and comment on spots: A (Practical's 12 & 13)

B & C (Practical 5).Practical Record and Viva.

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5 Marks

8 Marks

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5 Marks

4x3=12Marks

### 10 Marks

#### SCHEME OF VALUATION

- 1. Principle and procedure -3 Marks; Result and inference 2 Marks.
- 2. Principle and procedure 2 Marks; Experiment 4 Marks; Comments and importance 2 Marks.
- 3. Principle and procedure- 2 Marks; Experiment and importance 3 Marks.
- 4. Identification -1 Mark; Comments/sources and role 3 Marks.
- 5. Practical Record 7Marks and Viva 3 Marks.

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#### III SEMESTER

#### **ELECTIVE - 1: HISTOLOGY**

**Theory Credits: 03** 

 $3 \times 15 = 45 \text{ Hrs.}$ 

Unit-I.

15 Hrs.

- Structure of Prokaryotic and Eukaryotic cells.
- Histology of different types of cells Epithelial cell, Muscle cell, Nerve cell, Bone cell, Fat cell, Stem cell.
- Histology and types of Epithelial and Connective tissues.

Unit-II.

15 Hrs.

- Structure and histoarchitecture of Mammalian Intestine.
- Structure and histoarchitecture of Mammalian Liver.
- Structure and histoarchitecture of Mammalian Lungs.
- Structure and histoarchitecture of Mammalian Kidney.
- Histopathology of- Gastric ulcers, Liver cirrhosis, Fibroid lungs, Emphyzema, Kidney stones.

Unit-III.

15 Hrs.

- Structure and histoarchitecture of Mammalian Thyroid gland.
- Structure and histoarchitecture of Mammalian Adrenal gland.
- Structure and histoarchitecture of Mammalian Pancreas.
- Structure and histoarchitecture of Mammalian Testis.
- Structure and histoarchitecture of Mammalian Ovary.
- Histopathology of Goiter, Addisson's disease, Cushing's syndrome, PCOD.

#### References

- 1. Histology by H. E. Jordan.
- 2. Basic Histology by J. B. Long.
- 3. Text Book of Histology by L. P. Gartner.

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#### III SEMESTER

### ELECTIVE - 2: ENDOCRINOLOGY

**Theory Credits: 03** 

 $3 \times 15 = 45 \text{ Hrs.}$ 

Unit-I.

15 Hrs.

- Human endocrine system: Concept of autocrine, paracrine, juxtacrine, exocrine and endocrine organs.
- Types of hormones. Role of hormones in homeostasis.
- Neurohormones hypothalamic releasing and inhibitory factors and their actions.

Unit-II.

15 Hrs.

- Gross morphology and the role of hormones of Pituitary.
- Gross morphology and the role of hormones of Thyroid.
- Gross morphology and the role of hormones of Parathyroid.
- Gross morphology and the role of hormones of Adrenal gland.
- Gross morphology and the role of hormones of Pancreas.
- Gross morphology and the role of hormones of Pineal gland.
- Deficiency diseases of hormones: Dwarfism, Gigantism/Acromegaly, Exophthalmic goiter, Endophthalmic goiter, Diabetis mellitus, Diabetis insipidus, Addisson's disease, Cushing's syndrome.

Unit-III.

15 Hrs.

- Hormones of Reproduction: FSH, LH, Estrogen, Progesterone, Testosterone.
- Hormonal dynamics in menstrual cycle, pregnancy and parturition.
- Environmental estrogens.
- Brief account of early onset of puberty vs. Food and lifestyle in both sexes.

#### References

- 1. Text book on Endocrinology by Williams.
- 2. Endocrinology by Harrisson.
- 3. Endocrinology by Hadley.
- 4. Test book on Endocrinology by Gayathri Prakash.

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#### **ZOOLOGY: IV SEMESTER**

#### CELL BIOLOGY AND DEVELOPMENTAL BIOLOGY

**Theory Credits: 03** 

3Hrs. / Week X 15 = 45 Hrs.

UNIT-I.

15 Hrs.

- The Cell: Ultrastructure of an animal cell.
- Membrane system: Plasma membrane: Ultrastructure fluid mosaic model, functions.
- Occurrence, origin, ultrastructure and functions of: Endoplasmic reticulum, Golgi complex and Lysosome (polymorphism).
- Mitochondria: Morphology, distribution, ultra structure and significance. Mitochondria as semi- autonomous organelle.
- Ribosomes: Occurrence and distribution, structure and chemical composition, dissociation and reconstitution.
- Nucleus: Ultrastructure of nucleus, nuclear membrane, nucleoplasm and chromatin fibers.
- Nucleolus: Ultrastructure and functions.
- Chromosome: Morphology, ultrastructure (nucleosome model)
   Giant chromosomes Polytene and Lamp brush chromosomes-structure.
   Chromosomal aberrations Aneuploidy, deletion, duplication, inversion and translocation.

UNIT-II. 15 Hrs.

- Cell division: Cell cycle. Mitosis: mitotic stages.
- Ultrastructure of centriole. Spindle fiber and its role in chromosome movements. Mitotic inhibitors. Significance of mitosis.
- Meiosis: Meiotic stages. Synaptonemal complex, crossing over and chiasmic formation, Significance of meiosis.
- Parthenogenesis: Natural parthenogenesis arrhenotoky, thelytoky (amictic and apomictic) and cyclical parthenogenesis with examples. Significance of parthenogenesis.
- Gametogenesis: Spermatogenesis formation of spermatids, spermatogenesis and Oogenesis.
  - Types of eggs based on quantity and distribution of yolk with examples. Egg membranes.
- Fertilization: Details of the process of fertilization with reference to sea urchin approach of gametes, role of fertilizin and antifertilizin, activation, penetration, reaction of the egg and amphimixis. Monospermy and polyspermy (physiological and pathological). Significance of fertilization.

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UNIT-III. 15 Hrs.

• Cleavage: Planes of cleavage – meridonal, vertical, equatorial and latitudinal.

- Types of cleavage holoblastic, meroblastic, radial, spiral, discoidal and superficial types with examples.
- Development of frog: Structure of frog's egg, Cleavage, blastula, gastrulation and neurulation. Fate maps in blastula.
- Amniotes: Development of chick Structure of hen's egg, cleavage, blastula, gastrulation, formation of primitive streak.
- Foetal Membranes: Development, structure and functions of amnion, chorion, yolk sac and allantois.
- Placenta: Histological and morphological classification with examples. Placental hormones.
- Human Development: Structure of mature spermatozoan, Graafian follicle. Process of ovulation, fertilization, morula, blastocyst, implantation, gastrulation.

## ZOOLOGY: PRACTICAL - IV CELL BIOLOGY AND DEVELOPMENTAL BIOLOGY

#### **Practicals Credits: 02**

4 Hrs / Week X 15 = 60 Hrs.

- 1. Micrometry: Use of ocular and stage micrometers to measure cell and nuclear dimensions.
- 2. Study of mitotic stages using permanent slides of onion root tip.
- 3. Squash preparation of onion root tip to study stages of mitosis.
- 4. Study of meiotic stages using permanent slides of grasshopper testis.
- 5. Demonstration of squash preparation of grasshopper testis to study stages of meiosis.
- 6. Study of permanent slide of salivary gland chromosomes of Drosophila.
- 7. Study of permanent slide/ karyotype and ideogram of Human(Male and Female)
- 8. Preparation of karyotype from the given metaphase plate of *Drosophila /* Grasshopper.
- Study of different types of eggs Graafian follicle, frog's egg, hen's egg and insect egg.

10. Study of grasshopper, frog and mammalian sperms.

- 11. Frog: cleavage stages, blastula (section)
- 12. Frog: gastrula (yolk plug stage) and neurula (section).
- 13. Chick embryo: 18 and 24 hours (WM and sections).
- 14. Chick embryo: 36 and 48 hours (WM).
- 15. Study of Developmental stages in *Drosophila* egg, larva, pupa and adult.

#### References

- 1. Comparative embryology by Huetner.
- 2. Cell Biology by C. B. Powar.
- 3. Cell Biology, Genetics, Evolution and Ecology by Jordan and Verma.
- 4. Cell Biology by De Robertis.
- 5. Developmental Biology by Scott, F. Gilbert.
- 6. Chordate Embryology by Verma and Agarwal.
- 7. Developmental Biology-Principles and Concepts by Arora and Grover.

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Predictions of Englands
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#### SEMESTER - IV

## CELL BIOLOGY AND DEVELOPMENTAL BIOLOGY SCHEME OF PRACTICAL EXAMINATION

Time: 3 Hrs. Max. Marks: 40 Marks

1. Make a temporary squash preparation of the given material and demonstrate a stage of cell division. Write the procedure and comment on the stage with a diagram.

8 Marks

2. Prepare the karyotype of the given metaphase plate (*Drosophila* / grasshopper). **OR**Measure the cell / nuclear diameter of the given material in the slide and report.

4 Marks

3. Identify with reasons the slides/spots: **A** & **B** (From practical's 4, 6 & 15)

 $3 \times 2 = 6 \text{ Marks}$ 

4. Identify and comment on the slide/spot: C, D & E (From practical's 9 to 14)

 $4 \times 3 = 12 \text{ Marks}$ 

5. Practical Record and Viva.

10 Marks

#### SCHEME OF VALUATION

- 1. Procedure & preparation 5 Marks; Report with diagram 3 Marks.
- 2. Allignment 3 Marks; Definition & significance 1 Mark.

#### OR

Calibration – 2 Marks; Calculation & report - 2 Marks.

- 3. Identification 1 Mark; Diagram with reason 2 Marks.
- 4. Identification 1Mark; Diagram with comments 3 Marks.
- 5. Practical Record 7 Marks; Viva 3 Marks.

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#### IV SEMESTER

#### **ELECTIVE-1: APPLIED ZOOLOGY**

**Theory Credits: 03** 

 $3 \times 15 = 45 \text{ Hrs.}$ 

Unit-I.

15 Hrs.

**Sericulture:** Introduction, scope and importance of Sericulture. Sericulture as a cottage industry. Morphology and life cycle of *Bombyx mori*. Diseases and preventive measures of silkworms (e.g. Protozoan, Fungal, Bacterial and Viral diseases of silkworms). Modern rearing techniques of mulberry silkworms up to cocoon stage. Non-mulberry silkworm cocoons. Grainage and its importance.

Unit-II.

15 Hrs.

Vermiculture: Introduction, scope and importance of vermiculture.

Morphology and reproduction of earthworm. Different species of earthworms used in vermiculture-Exotic and Indigenous species. Farming and management of vermiculture. Composition of vermicompost. Differences between vermiculture and vermicomposting. Composition of vermicompost. Predators of vermicompost. Benefits and importance of vermicompost and vermiwash. Vermiculture as a cottage industry.

Unit-III. 15 Hrs.

Apiculture: Introduction, scope and importance of apiculture.

Bee keeping as a cottage industry.

Honeybee species. Morphology of honeybees. Mouth parts modification for nectar collection, bee foraging. Artificial Bee rearing (Apiary) – Beekeeping equipment's. Selection of honeybee species for Apiculture. Honeybee diseases, enemies and their control and preventive measures.

Products of apiculture industry and its uses (e.g. Honey, beeswax, propolis, pollen, etc.). Role of honeybees in pollination.

#### References

1. Applied Zoology by Pradip, V. Jabde.

2. Fundamentals of Applied Zoology by Dr. Shaheen Kurshid.

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3. Applied Zoology by Saras Publications.

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## IV SEMESTER ZOOLOGY COMPULSORY PAPER

#### SKILL ENHANCEMENT IN ZOOLOGY

Practical Syllabus Credits: 02

 $4hrs/week \times 15 = 60 Hrs.$ 

#### Unit-I. Apiculture

1. Morphology of honeybee and different castes of honey bee colony.

2. Different species of honey bee (Apis dorsata, Apis florea, Apis mellifera).

3. Adulteration tests to identify pure honey (Filter paper test, Chloride test, Match stick test, Iodine test).

4. Bee hive and various beekeeping equipment's (Hive, Frame, Bee box, Honey extraction unit, Hive cutting knife).

#### Unit-II. Sericulture

1. Morphology and life cycle of Bombyx mori.

- 2. Identification of Mulberry and Non-mulberry silk cocoons (Mulberry, Muga, Eri, Tassar).
- 3. Rearing and maintenance of silkworms. Equipment's- Rearing tray, Brush, Ant well, Leaf chopper, Wax sheet, Egg sheet).

4. Diseases and preventive measures of silkworms (Photographs of -Protozoan, Fungal, Bacterial and Viral).

5. Uzi fly as a pest.

#### Unit-III. Vermiculture

1. Morphology of earthworms (e.g. Eudrelus, Eosinia, Perionyx species).

2. Types of vermiculture (Bin culture, Pit culture, Pot culture).

3. Basic Concepts of Vermiculture & Vermicomposting: Water holding capacity of vermicompost.

4. Importance of vermicompost and vermiwash.

5. Predators of vermicompost: Rat, mice, ants, squirrels.

#### References

1. Applied Zoology by Pradip, V. Jabde.

2. Fundamentals of Applied Zoology by Dr. Shaheen Kurshid.

3. Applied Zoology by Saras Publications.

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## IV SEMESTER

## SKILL ENHANCEMENT IN ZOOLOGY

## SCHEME FOR PRACTICAL EXAMINATION

1.	Mount the mouthparts of honey bee.	5 Marks.
2.	Identify the spot 'A' and 'B' and comment.	$5 \times 2 = 10 \text{Marks}$
	Conduct any two tests to identify pure noney.	$5 \times 2 = 10 \text{ Marks}$
	Identify the spots 'C' and 'D' giving reasons.  (From practical's 6 & 10).	$5 \times 2 = 10 \text{ Marks}$ 10 Marks
5.	Practical Record and Viva.	

## SCHEME FOR VALUATION

1. Mounting.

5 Marks.

- 2. Identification -1 Mark; Comments 4 Marks.
- 3. Principle and procedure 3Marks; Result and inference 2Marks.
- 4. Identification with diagram 2 Marks; Reasons 3Marks.
- 5. Practical Record -7 Marks; Viva 3 Marks.

## UNIVERSITY OF MYSORE DEPARTMENT OF STUDIES IN ZOOLOGY MANASAGANGOTRI, MYSORE-570 006

## PANEL OF EXAMINERS (PG) 2025-2026

#### **INTERNAL EXAMINERS**

- 1. Prof. M. Bhagya, DOS in Zoology, University of Mysore, MGM-6.
- 2. Prof. S.S. Malini, DOS in Genetics & Genomics, University of Mysore, MGM-6.
- 3. Prof. S. Basavarajappa, DOS in Zoology, University of Mysore, MGM-6.
- 4. Prof. M.S. Krishna, DOS in Zoology, University of Mysore, MGM-6.
- 5. Prof. V. Shakunthala, DOS in Zoology, University of Mysore, MGM-6.

#### **EXTERNAL EXAMINERS**

Note: Specialization of the Examiners is given in the brackets. The chairman of the BOE can select the examiners from the related specializations. For general papers in the subject, persons from any specialization may be selected.

- 1. Prof. P. Mehaboob Basha, Department of Zoology, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology, Animal Physiology, Biochemistry & Cell Biology).
- 2. Prof. Usha Anandhi, Department of Zoology, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology and Reproductive Biology).
- 3. Prof. B.P. Harini, Department of Zoology, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology and Cytogenetics & Cell Biology).
- 4. Prof. Shivashankar, Department of Life Sciences, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology & Sericultural Sciences).
- 5. Prof. Nagaraja, Assistant Director, UGC-MHRD Academic Staff College, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology and Applied Zoology).
- 6. Prof. Nagaraj, Department of Environmental Sciences, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology, Ecology, Toxicology & Environmental Biology).
- 7. Prof. Prakash, Department of Environmental Sciences, Bangalore University, Jnanabharathi, Bangalore-56 (General Zoology, Ecology, Toxicology & Environmental Biology).
- 8. Prof. Sreepada, K.S. Department of Applied Zoology, Mangalore University, Mangalagangotri, Mangalore-574 119 (Cell Biology, Fishery, Cytogenetics and Aquatic Biology).

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- 9. Dr. Narashimaiah, Associate Professor, Department of Applied Zoology, Mangalore University, Mangalagangotri, Mangalore-574 119 (General Zoology and Applied Zology).
- Dr. Mustaq Ahmad, Associate Professor, Department of Applied Zoology, Mangalore University, Mangalagangotri, Mangalore-574 119 (General Zoology and Applied Zology, Fishery).
- 11. Dr. Prashanth Naik, Associate Professor, Department of Biosciences, Mangalore University, Mangalagangotri, Mangalore-574 119 (General Zoology and Biosciences).
- 12. Prof. P.M. Biradar, Department of Zoology, Karnatak University, Dharwad-580 008 (General Zoology, Applied Zoology and Molecular Biology).
- 13. Prof. S. Shivanna, Department of Zoology, Karnatak University, Dharwad-580 008 (General Zoology, Cytogenetics, Cell Biology and Molecular Biology).
- 14. Prof. M. David, Department of Zoology, Karnatak University, Dharwad-580 008 (General Zoology, Aquatic Biology and Toxicology).
- 15. Prof. C.B. Ganesh, Prof. M. David, Department of Zoology, Karnatak University, Dharwad-580 008 (General Zoology, Reproductive Biology, Histology, Endocrinology).
- 16. Dr. K.S. Girish, Associate Professor, Department of Zoology, Karnatak University, Dharwad-580 008 (General Zoology, Amphibian Biology, Reproductive Biology, Applied Zoology).
- 17. Dr. Srinath,B.S. Assistant Professor, Department of Zoology, Karnatak University, Dharwad-580 008 (General Zoology, Cytogenetics, Cell Biology and Molecular Biology).
- 18. Dr. Nagaraja, Department of Zoology, Kuvempu University, Shankaraghatta, Shivamogga (General Zoology, Cytoenetics, Genetics and Molecular Biology).
- 19. Dr. Swetha, Assistant Professor, Department of Zoology, Kuvempu University, Shankaraghatta, Shivamogga (General Zoology and Aquatic Biology).
- 20. Prof. Vijay Kumar, Department of Wildlife Management, Kuvempu University, Shankaraghatta, Shivamogga (General Zoology and Wildlife and Biodiversity).
- 21. Prof. S.V. Krishnamurthy, Department of Environmental Sciences, Kuvempu University, Shankaraghatta, Shivamogga (General Zoology, Herpetology, Environmental Biology and Applied Zoology).

- 22. Prof. Y.L. Ramachandra, Department of Biotechnology, Kuvempu University, Shankaraghatta, Shivamogga (Applied Zoology, Biotechnology and Life Sciences).
- 23. Dr. Chabbi, Assistant Professor, Department of Zoology, Davangere University, Davangere (Reproductive Biology, General Zoology and Endocrinology).
- 24. Dr. Srinivas, Assistant Professor, Department of Zoology, Davangere University, Davangere (General Zoology and Cytogenetics).
- 25. Dr. Renuka Kaple, Assistant Professor, Department of Zoology, Davangere University, Davangere (Animal Physiology, Reproductive Biology, General Zoology and Endocrinology).
- 26. Dr. Aishya, Associate Professor, Department of Zoology, Tumkur University, Tumkur (General Zoology, Aquatic Biology, Toxicology, Applied Zoology).
- 27. Prof. Girish, K.S. Department of Biochemistry, Tumkur University, Tumkur (Biochemistry).
- 28. Dr. Raju, N.J. Department of Biotechnology, Karnataka State Open University, Mysore.
- 29. Dr. Harsha, Department of Environmental Sciences, Karnataka State Open University, Mysore.
- 30. Dr. Manjula, Associate Professor, Department of Life Sciences, Reva University, Bangalore. (General Zoology, Molecular Biology, Genetic Engineering & Biotechnology and Cell Biology).
- 31. Dr. Shilpa, Associate Professor, Department of Life Sciences, Reva University, Bangalore. (General Zoology, Molecular Biology, Genetic Engineering & Biotechnology and Cell Biology).
- 32. Prof. M.V. Shantha Kumar, Department of Zoology, Shivaji University, Kolhapur, Maharshtra, India (Entomology, General Zoology).
- 33. Prof. Yankanchi, Department of Zoology, Shivaji University, Kolhapur-416 004, Maharashtra (General Zoology, Applied Zoology, Molecular Biology, Environmental Biology).
- 34. Dr. Ivan Joseph Aranha, Department of Zoology, Ahmednagar College (Affiliated to Pune University) University of Pune, Ahmednagar-414001, Maharashtra (Reproductive Biology and General Zoology).
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- 65. Prof. Geetha, DOS in Biotechnology, University of Mysore, Manasagangotri, Mysore-6.
- 66. Prof. K. Kemparaju, DOS in Biochemistry, University of Mysore, Manasagangotri, Mysore-6.

- 67. Dr. Amruthavalli, DOS in Genetics and Genomics, University of Mysore, Manasagangotri, Mysore-6.
- 68. Prof. Shubha Gopal, DOS in Microbiology, University of Mysore, Manasagangotri, Mysore-6.
- 69. Prof. S. Satish, DOS in Microbiology, University of Mysore, Manasagangotri, Mysore-6.
- 70. Prof. Srinivasa, M.Y. DOS in Microbiology, University of Mysore, Manasagangotri, Mysore-6.
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- 81. Dr. Chetan, Assistant Professor, Department of Zoology, KSOU, Mysore.
- 82. Dr. Kusuma, K.L. Scientist, CSR&TI, Mysore.
- 83. Dr. Ranjini, M.S. Scientist, CSR&TI, Mysore.

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- 2. Smt. Leelavathi, N.K. Associate Professor, Government Home Science College, Hassan.
- 3. Sri. Prasanna, K.S. Associate Professor, Department of Zoology, Government Science College, Autonomous, Hassan.
- 4. Dr. Latha, M. Associate Professor, Department of Zoology, Government Science College, Autonomous, Hassan.
- 5. Smt. M.J. Girijamba, Associate Professor, Department of Zoology, Government College for Women, Autonomous, Mandya.
- 6. Dr. Prathibha, M. Associate Professor, Yuvaraja's College, Autonomous, Mysore.
- 7. Dr. Mahadevaswamy, M. Associate Professor, Yuvaraja's College, Autonomous, Mysore.
- 8. Dr. Ashadevi, J.S. Associate Professor, Yuvaraja's College, Autonomous, Mysore.
- 9. Dr. Shivakumar, M. Associate Professor, Government Science College, Autonomous, Hassan.
- 10. Dr. Suchithra, G. Associate Professor, Department of Zoology, Maharani's Science College for Women, Autonomous, Mysore.
- 11. Sri. Dinesh Udapa, Assistant Professor, Government College for Women, Autonomous, Mandya.
- 12. Dr. Sathish, S.V. Assistant Professor, Government College for Women, Autonomous, Mandya.
- 13. Smt. Varija, H.S. Assistant Professor, AVK College for Women, Hassan.
- 14. Smt. Shakunthala, Assistant Professor, Sarada Vilas College, Mysore.
- 15. Sri. Vivek Charles, Assistant Professor, Teresian College, Mysore.
- 16. Smt. Kavitha, R.S. Assistant Professor, Teresian College, Mysore.
- 17. Smt. Meri Sofiya, Assistant Professor, St. Phelomena's College, Autonomous, Mysore.
- 18. Dr. Nirupama, M. Assistant Professor, Sri Adichunchanagiri First Grade College, Channarayapatna, Hassan District.

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