

S-1355

Sub. Code

23MZO1C1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Zoology

STRUCTURE AND FUNCTION OF INVERTEBRATES

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Chemotaxonomy?
2. What is ICZN?
3. Recall the term Schizocoelom.
4. Discuss the functions of cilia in protozoan locomotion.
5. State the function of Book lungs.
6. What is Filter feeding?
7. Write the function of Tube feet.
8. Define Apolysis.
9. Recall Rhabditiform.
10. What are minor phyla?

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Outline the concept of Taxonomic Hierarchy.

Or

- (b) Assess the new trends in Taxonomy.

12. (a) Distinguish between Protostomia and Deuterostomia.

Or

- (b) Illustrate the Hydrostatic movement in Annelida.

13. (a) Explain the pattern of feeding and digestion in lower Metazoa.

Or

- (b) Discuss about aerial respiration.

14. (a) Describe the structure and function of excretory system of Coelenterata.

Or

- (b) Examine the primitive nervous system in Echinodermata.

15. (a) Enlist the biological importance of Trochophora larvae.

Or

- (b) Explain the concept and significance of minor phyla.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Compose an essay on the Taxonomic collection of biological specimens.
 17. Elaborate on Locomotion system in Protozoa.
 18. Compile the modes of respiration in Arthropoda.
 19. Justify how the invertebrates achieve osmoregulation.
 20. Explain the larval forms of Parasites.
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S-1356

Sub. Code

23MZO1C2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Zoology

COMPARATIVE ANATOMY OF VERTEBRATES

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Write scientific names of any two protochordates.
2. What is a Balanoglossus?
3. Recall epidermal scales.
4. Write any two examples of hoof animals.
5. State the function of accessory respiratory organ in fishes.
6. What is a venous heart?
7. Write about metanephrous kidney.
8. Comment on appendicular skeleton.
9. Recall the function of Jacobson organ.
10. What are gustatoreceptors?

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Outline nature of vertebrate morphology.

Or

- (b) Explain about the evolution of vertebrates.

12. (a) Discuss about feathers in birds.

Or

- (b) Give an account on the general structure of skin.

13. (a) Trace the evolution of heart in vertebrates.

Or

- (b) Give a basic plan of portal system in vertebrates.

14. (a) Give an account on Pectoral girdle of amphibians.

Or

- (b) Highlight the key anatomical changes in vertebrate limbs.

15. (a) Discuss about organs of olfaction and taste.

Or

- (b) Explain electroreception.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Elaborate the concept of Protochordata.

17. Explain the role of the integumentary system in protection, thermoregulation and sensory perception.

18. Compile a note on characteristics of respiratory tissues.
 19. Explain the similarities and differences in the skeletal systems of vertebrates.
 20. Describe the structure of ear in vertebrates.
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S-1357

Sub. Code

23MZO1E1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Zoology

**Elective – MOLECULES AND THEIR INTERACTION
RELEVANT TO BIOLOGY**

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Bohr model of atomic structure
2. Acidic buffer
3. Normality
4. Riboflavin
5. Apoenzyme
6. Group transfer reaction
7. Protein motifs
8. micro RNA
9. London dispersion forces
10. Polar covalent bond

Part B

(5 × 5 = 25)

Answer **all** the questions choosing either (a) or (b).

11. (a) Define vapor pressure. Briefly explain the importance of colligative properties in biological system

Or

- (b) What is the principle of dynamic equilibrium? Explain its relation with rate constants of a chemical reaction.

12. (a) Comment on the general structure of monosaccharides.

Or

- (b) What are water soluble vitamins? Describe the importance of vitamin B complex in terms of deficiency disease.

13. (a) Enumerate the mechanism of regulation of enzyme action citing suitable examples.

Or

- (b) What are biological energy transducers? Highlight the importance of cytochrome bc 1 complex in energy transduction.

14. (a) What is the structure of Z-DNA? Enumerate its significance.

Or

- (b) Discuss with examples the secondary and tertiary structures of proteins.

15. (a) Identify and discuss on the types of stabilizing interactions in DNA.

Or

- (b) How are hydrophobic bonds produced? Explain with an example the biological importance of such bonds.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe with examples the application of thermodynamics in bioenergetics.
17. Describe the process of transamination, deamination and transdeamination of proteins during protein metabolism.
18. Why is glycolysis important? Highlight the reaction steps and the energetic of glycolysis.
19. What is Ramachandran plot? Describe its principle and application in biomolecular structure analysis.
20. Describe the different types of intermolecular and intramolecular stabilizing interactions with suitable.
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S-1358

Sub. Code

23MZO1E2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Zoology

Elective: BIO STATISTICS

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Biostatistics. Why is it essential in biological research?
2. Differentiate between nominal and ordinal data. Give biological examples.
3. Frequency polygon? How does it differ from a histogram?
4. The concept of “mode.” When is it the most appropriate measure of central tendency?
5. Standard error. How is it related to standard deviation?
6. State the multiplication rule of probability. When is it applied?
7. The characteristics of a normal distribution curve?
8. The concept of a null hypothesis in hypothesis testing.
9. The difference between correlation and causation?
10. Purpose of ANOVA?

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Describe the various methods of data collection in biological research. What are the advantages and disadvantages of each?

Or

- (b) The weights (in grams) of 10 butterflies are: 2.5, 2.8, 3.1, 2.9, 2.7, 3.2, 3.0, 2.6, 3.3, 2.4. Calculate the mean and standard deviation of these weights.

12. (a) Explain the properties and applications of the binomial distribution.

Or

- (b) A plant breeder crosses two varieties of plants. The probability of a plant having red flowers is 0.25. If plants are produced, what is the probability that exactly 2 will have red flowers? (Use the binomial distribution formula).

13. (a) Explain the procedure for conducting a t-test to compare the means of two independent samples.

Or

- (b) Two groups of animals were fed different diets. The weight gain (in kg) was recorded. Group 1 (n=8): Mean= 10, SD=2; Group 2 (n=6): Mean=12, SD=3. Is there a significant difference in weight gain between the two groups? (Perform the t-test, assuming equal variances).

14. (a) What is regression analysis? How is it used for prediction in biological studies?

Or

- (b) Explain the procedure for testing the significance of the difference between two sample means using a t-test.

15. (a) Discuss the advantages and limitations of using statistical software like SPSS in biological data analysis.

Or

- (b) What are the ethical considerations in biostatistical studies?

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the scope and applications of biostatistics in various fields of biology and medicine. Provide specific examples.
17. Explain in detail about Primary and Secondary data.
18. Explain the different types of probability distributions with examples of their applications in biological research. Focus on the normal and Poisson distributions.
19. What is hypothesis testing? Describe the steps involved in hypothesis testing with a suitable biological example. Include a discussion of Type I and Type II errors.
20. Discuss the importance of data analysis and interpretation in biological studies. How does statistical software aid in this process? Explain with reference to specific statistical tests.

S-1359

Sub. Code

23MZ01S1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Zoology

INTELLECTUAL PROPERTY RIGHTS

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Patent.
2. Comment on trademark.
3. Expand (a) PCT (b) TRIPS.
4. What can be protected under Copyright?
5. What is USPTO?
6. What is the patent information system?
7. Comment on Consumer Protection Act
8. What are 'Not Inventions' according to Sec 3 of the Patent Act of 1970?
9. What is infringement?
10. What is the role of Copyright Enforcement Advisory Council?

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Write briefly on intellectual property rights.

Or

- (b) Give a short note on rights of the patentee.

12. (a) Brief about trade secrets.

Or

- (b) Give a short note on Industrial designs.

13. (a) Write a note on laws related to intellectual property rights in India.

Or

- (b) Write shortly on the design Act.

14. (a) Write about digital IPR and its concerning laws.

Or

- (b) Write a note on the duration of various Intellectual Property Rights.

15. (a) Brief on terms of the Copyright Act, with regard to sections 22 to 29, 1957.

Or

- (b) Write a short note on emerging issues in the context of IPR.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give a detailed account of intellectual property rights in India.
 17. Write an overview on Geographical indications.
 18. Explain history and the development of Intellectual property treaties in detail.
 19. Discuss the types of patent infringement.
 20. Discuss a few important cases and judgments related to Intellectual Property Rights in India and abroad.
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S-1360

Sub. Code

23MZO1A1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Zoology

SERICULTURE

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. How does natural fibres differ from synthetic fibres?
2. Write a short note on Silk Road.
3. What are the host plants of sericulture?
4. Define Kolar or Strip system of mulberry cultivation.
5. Brief a short note on the silk gland of *Bombyx mori*.
6. What is black boxing in sericulture?
7. Explain chawki rearing in sericulture.
8. What is the damage caused by dermestid beetles?
9. Define riddling in cocoon processing.
10. Why is deflossing important?

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Give an account on sources of silk fibres.

Or

- (b) Brief about the current situation of sericulture in India.

12. (a) How is the propagation of mulberry via stem cutting done?

Or

- (b) Give a detailed account on powdery mildew disease in mulberry.

13. (a) Explain a note on larval moults.

Or

- (b) Add a note on the advantages and disadvantages of using commercial silkworm races in sericulture.

14. (a) What is the purpose of disinfection in a silkworm rearing house?

Or

- (b) Comment on bacterial diseases of silkworm.

15. (a) Describe the physical characteristics of a good quality cocoon.

Or

- (b) Write a detailed account on different types of silk reeling machines.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the fundamental properties of silk fibres and their relevance to the textile industry.
 17. Describe the morphology of a mature mulberry.
 18. Elucidate the life cycle stages of *Bombyx mori*.
 19. Enumerate Uzi fly disease of silkworms.
 20. Explain the process of cocoon harvesting and marketing.
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S-1362

Sub. Code

23MZO2C2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Second Semester

Zoology

DEVELOPMENTAL BIOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Vitellogenesis
2. Acrosome
3. Chemotaxis
4. Pronucleus
5. Composition of primary germ layer
6. Blastula
7. Neural crest
8. Bicoid and nanos protein
9. Pedogenesis
10. Apoptosis

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Write a short note on synthesis of yolk in crustaceans.

Or

- (b) Give a brief account on oogenesis in amphibians.

12. (a) Explain the process of chemotaxis.

Or

- (b) Write a brief note on parthenogenesis.

13. (a) Illustrate the fate map of chick.

Or

- (b) Comment on epigenesis.

14. (a) Give a brief account on embryonic induction.

Or

- (b) Explain the determination of anterior-posterior axis in drosophila.

15. (a) Write a short note on endocrine control of moulting in insects.

Or

- (b) Explain the types of regeneration seen in planaria.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write a detailed account on spermatogenesis.
 17. Give a detailed account on the steps involved in egg activation.
 18. Explain in detail about the mechanism of cleavage.
 19. Write an essay on embryonic development of fish.
 20. Discuss in detail about induced ovulation in humans.
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S-1367

Sub. Code

23MZO3C1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

GENETICS

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Differentiate nucleoside and nucleotide
2. Structure of adenine
3. Cri du chat syndrome
4. Kinetochore
5. Capsomeres
6. Hfr strains
7. Replica plating
8. Ligases
9. Biolistics
10. T-DNA.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) What is tRNA? Describe with a diagram its molecular structure.

Or

- (b) With a suitable diagram explain the molecular structure of quadruplex DNA.

12. (a) Comment on Turner syndrome and Patau syndrome.

Or

- (b) Define a chromosome. Highlight using examples the chromosomal theory of inheritance.

13. (a) Comment on the lysogenic cycle of a virus.

Or

- (b) Using an example describe the process of transformation in bacteria.

14. (a) Highlight with examples the different types of DNA modifying enzymes and their applications.

Or

- (b) What are phagemids? Explain their structure and application in gene transfer.

15. (a) Describe the principle and application of calcium chloride mediated gene transfer.

Or

- (b) What is blue-white screening? Demonstrate how you will use it for selection of recombinant colonies?

Part C

(3 × 10 = 30)

Answer any **three** questions.

All questions carry equal marks.

16. Elaborate on the molecular structure and properties of B-DNA.
 17. What is nucleosome? Explain the process of packaging of metaphase chromosome.
 18. What is a operon? Using the concept of Lac operon, describe the genome organization and function in a bacteria.
 19. What is the principle, working and application of transformation and its types in rDNA technology?
 20. “rDNA technology has transformed clinical medicine” – Discuss with suitable examples.
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S-1368

Sub. Code

23MZO3C2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

EVOLUTION

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is the difference between interspecific and intraspecific struggle for existence?
2. Critically evaluate the fourth postulate of Lamarckism
3. What sorts of chemical reactions could produce the building blocks of life?
4. How did the genetic code evolve?
5. Define Eras
6. Define divergent evolution
7. Define genetic drift
8. Define altruism
9. Explain sympatricity
10. $p^2+2pq+q^2$ – explain.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Describe the salient features of Darwin's theory of Natural Selection.

Or

- (b) Write the significance criticism of Lamarckism

12. (a) Compare and contrast the anaerobic and aerobic metabolism.

Or

- (b) Describe the origin of eukaryotic cells

13. (a) Write the significance of Phanerozoic eon.

Or

- (b) Explain the major event happened in Eocene epoch.

14. (a) Write the molecular clock hypothesis and its implications.

Or

- (b) Explain the DNA based phylogenetic tree.

15. (a) Explain the Factors Affecting the Rate of Gene Frequency Change.

Or

- (b) Explain the frequency-dependent selection.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the various theories of evolution.
 17. Explain in detail the synthesis of basic biological molecules.
 18. Describe the origin of unicellular and multicellular organism.
 19. Describe the types and factor affecting speciation
 20. What is Coevolution? And add a detail note of reciprocal altruism.
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S-1369

Sub. Code

23MZO3C3

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

ANIMAL PHYSIOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Significance of thrombocytes
2. Brachycardia
3. External respiration
4. Role of aerobic respiration
5. Functions of spinal cord
6. Nephron
7. Pancreatic enzymes
8. CSF
9. Thermoregulation
10. Acclimatization.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Describe ECG with its principle and significance.

Or

- (b) What are the components of blood and its function?

12. (a) Describe the process of gaseous exchange at the alveolar level.

Or

- (b) Difference between the external respiration, internal respiration and cellular respiration.

13. (a) Describe the structure of neuron with a neat labeled diagram.

Or

- (b) Explain the classification of nervous system in humans.

14. (a) Describe the structure and function of human digestive system.

Or

- (b) Describe the process of urine formation in the kidneys.

15. (a) What is the role of insulin and glucagon in blood sugar regulation?

Or

- (b) What is fertilization? Explain the process in human.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give a detailed account on structure of heart with a neat diagram.
 17. Explain about neural and chemical regulation of respiration.
 18. Describe about the neural control of muscle tone and posture.
 19. Describe about how our kidney does the electrolyte balance
 20. Briefly explain about the thermoregulation in animals.
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S-1370

Sub. Code

23MZ03E1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

Elective – STEM CELL BIOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

Define / Explain the following.

1. Self- renewal
2. Yamanaka factor
3. Mesenchymal stem cell
4. Telomerase
5. Genetic reprogramming
6. OCT and FGF
7. Pluripotency
8. Inner cell mass
9. Hay flick's limit
10. Progenitor cells

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Write a short note on neural stem cells.

Or

- (b) Briefly explain skeletal muscle myogenesis.

12. (a) Write a short note on culture of embryonic stem cells.

Or

- (b) Comment on cellular and vascular responses upon tissue injury.

13. (a) Give an account on hematopoietic stem cell.

Or

- (b) Define stem cells. Explain briefly the history of stem cells.

14. (a) Write a note on somatic nuclear transfer.

Or

- (b) Explain the mechanism of tissue regeneration with a suitable example.

15. (a) Write a note on properties of embryonic stem cells.

Or

- (b) Give a brief account on the various types and sources of stem cells.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on stem cell therapeutic.
 17. Give a detailed account on aging, senescence and its prevention using stem cells.
 18. Describe the properties, identification and culture of adult stem cells.
 19. Explain the molecular basis of stem cells renewal and differentiation.
 20. Give a detailed account on induced pluripotent stem cells (iPSC).
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S-1371

Sub. Code

23MZO3S1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

DAIRY FARMING

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Explain Crossbred cattle.
2. List out six body parts of cattle.
3. Explain loose housing system.
4. Comment on ancillary building in dairy farm.
5. Write the composition of concentrate mixture feed.
6. Comment on heifer.
7. Explain pasteurization.
8. Explain non-protein nitrogenous substances.
9. Comment on osteoporosis.
10. List out two diseases caused by protozoa and helminthes.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) List out the ideal selection characteristics of dairy cattle.

Or

- (b) Give an account on artificial insemination.

12. (a) Explain the advantages and disadvantages of conventional barns housing.

Or

- (b) Explain the practices and importance of winter calf management.

13. (a) Explain the Thumb Rule Method of feeding to cattle and buffaloes.

Or

- (b) Give an account on composition and importance of feed additives.

14. (a) Describe the physical and nutritional properties of casein.

Or

- (b) Explain the importance of dairy farming in rural economy.

15. (a) Write the importance of de-footing and de-worming schedule.

Or

- (b) List out five important vaccines administered in young calves.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the characteristics of exotic cattle breeds with examples.
 17. Discuss the essential and ancillary buildings required to maintain the dairy animals.
 18. Explain the differential nutritional requirements of feeding for growth and lactation of cattle.
 19. Give a detailed account on milk products and its economical and nutritional importance.
 20. Explain the causative agent, symptoms and treatment options for two important viral diseases of cattle.
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S-1372

Sub. Code

23MZO3S2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

MEDICAL LABORATORY TECHNIQUES

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is the standard protocol to dispose toxic chemical?
2. Write any 5 Good laboratory practice?
3. Write the physiological effect of alcohol consumption.
4. List the haemolytic disease in new born.
5. Name the imaging technique used in diagnosis.
6. List any five protozoan parasites.
7. What is the role of ultrasonography?
8. How will you measure the heart rate?
9. Define histology.
10. List the types of microtomes.

Part B

(5 × 5 = 25)

Answer **all** the questions choosing either (a) or (b).

11. (a) Explain the biomedical waste management.

Or

- (b) Write the physiological changes caused by smoking.

12. (a) Explain mechanism of blood coagulation.

Or

- (b) Describe the bleeding time and clotting time.

13. (a) Explain in detail the structure and function of cell.

Or

- (b) Write a detailed account on *Entamoeba histolytica*.

14. (a) Draw and explain the regulation of heart.

Or

- (b) Explain the role of Electrocardiogram in diagnosis.

15. (a) Write the difference between microtome and cryotome.

Or

- (b) Mounting problem encountered during sectioning – explain.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the handling and disposal of toxic and biohazards wastes.
 17. Explain in detail the bleeding disorder of man.
 18. Explain in detail the positron emission tomography in diagnosis of disease.
 19. Illustrate electroencephalography.
 20. Describe the process of making histology slide using microtome.
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S-1373

Sub. Code

23MZO3A1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Zoology

VERMICULTURE

(CBCS – 2023 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Comment on body setae.
2. Write the taxonomic position of earthworm.
3. Explain mechanical method of harvesting.
4. Define wormery.
5. Write the merits of static pile windrows.
6. List out ideal storage conditions for vermicompost.
7. Explain the usage of vermicompost in agriculture.
8. Explain the biomedical wastes.
9. Define water impercolation.
10. Comment on soil fertility.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Give an account on reproductive system of earthworm.

Or

- (b) Write the contribution of vermitechnology in Indian agriculture.

12. (a) Explain the source and importance of feed stock in vermiculture.

Or

- (b) Discuss the merits and demerits of polyculture method.

13. (a) Describe pit method of vermicompost preparation.

Or

- (b) Explain the harvesting techniques adopted to collect the vermicompost.

14. (a) List out the usage and applications of vermicompost in forestry.

Or

- (b) Discuss the physical and chemical characteristics of vermicompost.

15. (a) List out the potentials and constrains of vermiculture in India.

Or

- (b) How vermiculture helpful for sustainable agriculture - Explain.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the digestive system and feeding schedule of earthworm.
 17. Discuss the ideal criteria for site selection and earthworm species selection process.
 18. Explain the heap method of vermicompost preparation.
 19. Discuss the advantages and preparation method for vermicasting.
 20. Describe the marketing strategies for vermiculture products.
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