

A

(20123)

Roll No. ..03.....

M. Sc.-I Sem.

11070

M. Sc. Examination, Dec. 2022

ZOOLOGY-I

Economic Zoology and Taxonomy

(H-1062)

Time : Three Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Attempt all the *five* questions. Each question carries 2 marks. Very short answer is required not exceeding 100 words.

2×5=10

(2)

1. / What is beta taxonomy ?
2. / Give the concept of species.
3. / Give the scientific names of two species of honey-bee.
4. / What is ising glass as by product of fishing industry ?
5. / Define numerical taxonomy.

Section-B

(Short Answer Type Questions)

Attempt any *two* questions out of the following three questions. Each question carries 5 marks.

Short answer is required not exceeding 200 words.

5×2=10

6. Elaborate the role of 'Karyotype' in cytotaxonomy.

(3)

7. ✓ Describe the various sub-categories of species.
8. ✓ Give an account of biological control of pests.

Section-C

(Detailed Answer Type Questions)

Attempt any *three* questions out of the following five questions. Each question carries 10 marks.

Answer is required in detail. $10 \times 3 = 30$

9. ✓ Elaborate the development of taxonomic key for animal classification.
10. Give an idea of molecular taxonomy. Why is it more precised than others ?
11. Write an essay on the history of Taxonomy.
- ✓12. Describe the various steps in poultry farming in India.

(4)

13. What is Integrated Pest Management (IPM) ?
How can it be useful in overcoming food shortage
at global level ?

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M. Sc.-I Sem.

Roll No.03.....

11071

M. Sc. Examination, Dec. 2022

ZOOLOGY-II

Evolutionary Biology

(H-1063)

Time : Three Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Attempt all the *five* questions. Each question carries 2 marks. Very short answer is required not exceeding 75 words.

$2 \times 5 = 10$

1. Coacervates and microspheres.
2. Bipolar distribution.
3. Gene duplication.
4. Coevolution.
5. Atavism.

Section-B

(Short Answer Type Questions)

Attempt any *two* questions out of the following three questions. Each question carries 5 marks.

Short answer is required not exceeding 200 words.

5×2=10

6. Abiogenesis and Biogenesis.

7. Discontinuous animal distribution.
8. Mass extinction and periodic extinction.

Section-C

(Detailed Answer Type Questions)

Attempt any *three* questions out of the following five questions. Each question carries 10 marks.

Answer is required in detail.

10×3=30

9. Give an account of theories of origin of life on earth.
10. Give an account of distribution of animals with time.
11. What is micro-evolution and macro-evolution ? Discuss.

(4)

12. Describe speciation. How does it occur ?

13. Describe the various evidences that support organic evolution.

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11072

M. Sc. Examination, Dec. 2022

ZOOLOGY-III

Non-Chordata

(H-1064)

Time : Three Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Attempt all the *five* questions. Each question carries 2 marks. Very short answer is required not exceeding 75 words.

$2 \times 5 = 10$

(2).

1. Caudal tuft.
2. Choanocyte.
3. BEROE. ^{बरो}
4. Nephridial forest. ^{नैफ्रिड}
5. Radula. ^{रेडुला}

Section-B

(Short Answer Type Questions)

Attempt any *two* questions out of the following three questions. Each question carries 5 marks.

Short answer is required not exceeding 200 words.

5×2=10

6. Nutrition in Amoeba.

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(3)

7.

Obelia medusa.

8. Regeneration in Echinodermata.

Section-C

(Detailed Answer Type Questions)

Attempt any *three* questions out of the following five questions. Each question carries 10 marks.

Answer is required in detail.

10×3=30

9

Give the salient features of Phylum Porifera and classified Porifera upto orders with suitable example.

10

What is canal system ? Describe the canal system of Sycon in detail.

11

Describe the life history of Taenia solium.

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Hexacanth
Cysticercus
Onchosphere

(4)

12. Explain excretory system and process of excretion in Earthworm. ◉
13. Give a detailed account of general organization and affinities of Hemichordata. ◉

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(20123)

M. Sc.-I Sem.

Roll No.03.....

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M. Sc. Examination, Dec. 2022

ZOOLOGY-IV

Cell & Molecular Biology

(H-1065)

Time : Three Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Attempt any *five* questions out of the following six questions. Each question carries 2 marks. Very short answer is required.

$2 \times 5 = 10$

(2.)

1. Cell cycle.
2. Germplasm theory.
3. Cadherins.
4. Nucleosome.
5. Actin filaments.
6. Active transport.

Section-B

(Short Answer Type Questions)

Attempt any *two* questions out of the following three questions. Each question carries 5 marks.

Short answer is required.

5×2=10

7. How mitochondria act as powerhouse of cell ?
Describe its structure and functions.

8. Describe the fluid mosaic model of plasma membrane.
9. Discuss the process of DNA replication.

Section-C

(Detailed Answer Type Questions)

Attempt any *three* questions out of the following five questions. Each question carries 10 marks.

Answer is required in detail. $10 \times 3 = 30$

10. Describe the structure of cytoskeleton. How its components are involved in cell movement ?
11. What do you understand by cell-cell signaling ?
How signaling is possible from plasma membrane to nucleus ?

(4)

12. What is apoptosis ? Describe its mechanism in detail.
13. Describe cellular affinity and cell adhesion. Give a detailed account on calcium dependent and calcium independent cell-cell adhesion.
14. How does protein synthesis occur in cell through the process of transcription and translation ?