

A
(20222)
M.Sc.-I Sem.

Printed Pages : 3
Roll No.

11070 CV-III

M.Sc. Examination-December-2021

ZOOLOGY-I

Economic Zoology and Taxonomy

(H-1062)

Time : $1\frac{1}{2}$ Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Answer any two questions. Each question carries 5 marks. $2 \times 5 = 10$

1. Write a short note on dairy products.
2. Explain cytotaxonomy with the help of one example.
3. Differentiate between allopatric and sympatric species.
4. Comment on piggery
5. Binomial nomenclature

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Section-B

(Short Answer Type Questions)

Note : Answer any **one** question out of the following three questions. Each question carries 10 marks. $1 \times 10 = 10$

6. Write a short note on wool industry.
7. Discuss about Hierarchies of categories and higher taxa.
8. Explain various types of Pearl oysters and their occurrence.

Section-C

(Detailed Answer Type Questions)

Note : Answer any **two** questions out of the following five questions. Each question carries 15 marks. $2 \times 15 = 30$

9. Write an essay on principles and rules of Zoological nomenclature (ICZN).
10. What is fish culture ? Give an account of the management of fish culture programme.
11. Describe various Poultry Breeds. Give an account of Poultry keeping in India.

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12. Describe various methods of collection, processing, preservation, identification and cataloguing of insects.
13. Define Species. Name four species concepts. Describe biological species concept in detail.

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M.Sc. Examination-December-2021

ZOOLOGY-II

Evolutionary Biology

(H-1063)

Time : $1\frac{1}{2}$ Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Attempt any two questions. Each question carries 5 marks. Very short answer is required not exceeding 75 words. $2 \times 5 = 10$

1. Define Analogous Organs with examples.
2. Give the characteristic features of cro-magnon man.
3. What is co-evolution ?
4. Explain any two barriers of animal distribution.

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5. Give the idea of continuous distribution of animals with examples.

Section-B
(Short Answer Type Questions)

Note : Attempt any **one** question out of the following three questions. Each question carries 10 marks. Short answer is required not exceeding 200 words. $1 \times 10 = 10$

6. Describe prezygotic isolating mechanism in animals.
7. Differentiate between Allopatric and Sympatric evolution.
8. Give the idea of molecular clock in organic evolution.

Section-C
(Detailed Answer Type Questions)

Note : Attempt any **two** questions out of the five questions. Each question carries 15 marks. Answer is required in detail. $2 \times 15 = 30$

9. Give the evolutionary history of *horse* with suitable examples.
10. Give an account of the geographic boundaries
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climate and fauna of oriental region.

11. Define mimicry. Give its types and significance.
12. Elaborate the main features of Lamarckism.
13. Describe the mechanism of mega evolution.

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ZOOLOGY-III

Non-Chordata

(G-1064)

Time : $1\frac{1}{2}$ Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Answer any **two** questions. Each question carries 5 marks. Very short answer is required not exceeding 75 words. $2 \times 5 = 10$

1. Affinities of Phylum Ctenophora
2. Differences between Nereis and Heteroneries
3. Draw a neat well labelled diagram of Zoea Larva (No description required).
4. Shell in Mollusca
5. General characters of Phylum Platyhelminthes

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Section-B
(Short Answer Type Questions)

Note : Answer any **one** question out of the following three questions. Each question carries 10 marks. Short answer is required not exceeding 200 words. $1 \times 10 = 10$

6. Describe the Excretory system in Leech.
7. Describe the respiratory system in Arthropoda.
8. Discuss Torsion and Detorsion in Gastropoda.

Section-C
(Detailed Answer Type Questions)

Note : Answer any **two** questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. $2 \times 15 = 30$

9. Describe various types of Locomotory organelles in Phylum Protozoa.
10. Describe various larval forms in Crustacea.
11. Give detailed account of general organization, classification and affinities of Phylum Hemichordata.

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12. Classify Phylum Annelida with diagnostic characters and common examples of each group.
13. What do you understand by Polymorphism. Describe it in detail in Cnidaria.

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ZOOLOGY-IV

Cell & Molecular Biology

(H-1065)

Time : 1½ Hours]

[Maximum Marks : 50

Note : Attempt questions from *all* sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Attempt any two parts of the following questions. Each part carries 5 marks. Very short answer is required.

2×5=10

1. (a) Selectins
- (b) Microtubules
- (c) Endoplasmic reticulum
- (d) Genetic Code
- (e) Polytene chromosome
- (f) Euchromatin

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Section-B

(Short Answer Type Questions)

Note : Attempt any *one* question out of the following three questions. Each question carries 10 marks.

Short answer is required. $1 \times 10 = 10$

2. What do you mean by cytoskeleton? What are its components?
3. What is cancer? Describe various factors which are responsible for carcinogenesis?
4. Why nucleus is known as controlling centre of cell? Describe its structure and function.

Section-C

(Detailed Answer Type Questions)

Note : Attempt any *two* questions out of the following five questions. Each question carries 15 marks.

Answer is required in detail. $2 \times 15 = 30$

5. What is cell adhesion and how does it help in cell sorting? Describe various cell adhesion molecules and cell junctions.
6. What do you mean by Apoptosis? How it is different from necrotic cell death?

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7. Explain the different models of plasma membrane and give detailed account of Fluid mosaic model. Discuss about the functions of plasma membrane.
8. What is the difference between semiconservative and conservative replication of DNA? Describe the experiment that prove the semiconservative mechanism of DNA.
9. How does protein synthesis occur in cell through the process of transcription and translation. What is the importance of genetic code in protein synthesis?

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