

(4)

10. Write a detailed account on Biological Clock or Biological Rhythms.
11. Explain social organization in Insects in detail with diagram and give the advantages of groupings.
12. What is learning and memory ? Explain the development and mechanism of learning?
13. Define Stereotyped behaviour. Explain it taxes, reflexes, instinct and motivation with suitable examples.

13078(CV-III)-4

A

(20222)

M. Sc.-III Sem.

Roll No.

13078(CV-III)

M. Sc. Examination, Dec. 2021

ZOOLOGY-XII

Animal Behaviour

(H-3065)

Time : 1½ Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Answer any *two* questions out of the following five questions. Each question carries 5 marks. Very short answer is required not exceeding 75 words.

5×2=10

1. Explain Dominance Hierarchy.

2. Explain chemical perception.

3. Define Orientation.

4. Define Territory.

5. Define Circannual rhythm.

Section-B

(Short Answer Type Questions)

Answer any *one* question out of the following

three questions. Each question carries 10

marks. Short answer is required not exceeding

200 words.

10×1=10

13078(CV-III)

6. What is Migration ? How many types of migration occur ?

7. Write a short note on Pheromones ?

8. Write a short note on Motivation.

Section-C

(Detailed Answer Type Questions)

Answer any *two* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 15×2=30

9.

What is Communication ? Explain communication in animals as language and "Waggle dance of honey-bees" in detail.

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12. Define parthenogenesis. Explain the natural and rudimentary parthenogenesis. Write the significance of parthenogenesis.

A

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ZOOLOGY

Development Biology

(H-3063)

[Time : 1½ Hours]

[Maximum Marks : 50]

Note : Attempt questions from all Sections as per instructions. Draw a suitable diagram where needed.

Section-A

(Very Short Answer Type Questions)

Answer any *two* questions out of the following five questions. Each question carries 5 marks. Very short answer is required. 5×2=10

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1. Types of cleavage.

2. Involution.

3. Oncogenesis.

4. Mosaic theory.

5. Biogenetic law.

Section-B

(Short Answer Type Questions)

Answer any *one* question out of the following

three questions. Each question carries 10 marks.

Short answer is required.

10×1=10

6. Explain morphollaxis.

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7. Role of hormone in insect metamorphosis.

8. Write any two theories of Aging.

Section-C

(Detailed Answer Type Questions)

Answer any *two* questions out of the following

four questions. Each question carries 15 marks.

Answer is required in detail. 15×2=30

9. What is Oogenesis and Gametogenesis ? Explain in detail.

10. What is regeneration ? Explain the mechanism in different animal groups.

11. What is Fertilization ? Explain the process of fertilization in one animal.

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13. Write an account of 'Biosphere Reserve'. What are the problems of wildlife management in India ?

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M. Sc. Examination, Dec. 2021

ZOOLOGY

Environmental Biology

(H-3064)

Time : 1½ Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per

instructions.

Section-A

(Very Short Answer Type Questions)

Answer any two questions out of the following

five questions. Each question carries 5 marks.

Very short answer is required not exceeding

5×2=10

75 words.

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1. What is Autotrophs and Heterotrophs ?

2. Define food chain and food web.

3. Explain 'Liebig's Law of Minimums'.

4. Define the term 'Xerosere'.

5. Write the names of two National Parks and two Wildlife Sanctuaries of India.

Section-B

(Short Answer Type Questions)

Answer any *one* question out of the following

three questions. Each question carries 10 marks.

Short answer is required not exceeding 200

words. $10 \times 1 = 10$

6. What is 'Hypervolume Niche' ?

7. Describe grassland ecosystem.

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geometric growth ?

How does it differ from exponential growth and

Give an account of logistic population growth.

energy flow in a typical ecosystem.

What are ecosystem energetics ? Describe the

Write an essay on biogeographical zones of India.

effect and control of water pollution.

Define pollution. Discuss in detail the sources,

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

five questions. Each question carries 15 marks.

Answer any *two* questions out of the following

(Detailed Answer Type Questions)

Section-C

approaches.

Discuss major biodiversity management

12. Write an essay on flight adaptations of birds.
13. Give a detailed account on general characters, general organization and affinities of Ostracoderms and Coelacanthiformes.
14. Write an essay on Prototheria, Metatheria and Eutheria.

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

Roll No.

13075(CV-III)

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ZOOLOGY-IX

Chordata

(H-3062)

Time : 1½ Hours]

[Maximum Marks : 50

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Answer any *two* questions out of the following five questions. Each question carries 5 marks. Very short answer is required not exceeding 75 words.

5×2=10

1. What are aquatic mammals ? Give two examples of aquatic mammals.

2. Give the five diagnostic characters of Protochordata.
3. Define Neoteny or Paedogenesis.
4. Classify the following animals upto orders :
 - (i) Viper
 - (ii) Endynamis
 - (iii) Bat
 - (iv) Labeorohita.
5. Give the important characters of super class-Pisces.

Section-B

(Short Answer Type Questions)

Answer any *one* question out of the following five questions. Each question carries 10 marks. Short answer is required not exceeding 200 words.

10×1=10

6. Write a short note on Parental care in Amphibia.

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7. Describe the different types of caudal fins in fishes. Give suitable diagrams.
8. Give the general organization and affinities of Marsupialia.
9. Give an account of salient features of mammals.
10. Write short notes on the following :
 - (i) Kangaroo
 - (ii) Duck billed platypus.

Section-C

(Detailed Answer Type Questions)

Answer any *two* questions out of the following four questions. Each question carries 15 marks. Answer is required in detail.

15×2=30

11. What is urinogenital system ? Give a comparative account on vertebrate kidneys with suitable diagrams.

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