

First Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (2018 onwards) (New)

ZOOLOGY

SSA810 : Paper I : Diversity and Functional Anatomy of Non-Chordates

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labelled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following questions.

5 X 2= 10 Marks

1. Define Metamerism.
2. Mention any two classes of Platyhelminthes with an example for each.
3. Draw a neat labelled diagram of Balanoglossus.
4. Define Cephalization.
5. Mention locomotory organelles in protozoa.
6. Mention the Pathogenicity of Wucherreia bancrafti.
7. Draw neat labelled diagram of chelate leg of Prawn.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Explain general characters of echinodermata.
9. Explain parasitic adaptations in helminthes.
10. Explain the digestive system of Leach with a neat labelled diagram.
11. Briefly explain the life history of Obelia.
12. Explain the general characters of Phylum porifera.
13. List the economic importance of insects.

III. Explain any TWO of the following.

2X10= 20 Marks

14. Explain general characters of annelida. Classify with examples.
15. Explain appendages of penaeus.
16. Explain coral reefs, and importance of coral reefs.

Contd...2

First Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (Before 2018-19)

ZOOLOGY

SSA 810 : Paper I : Invertebrates

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Objective type questions should be answered in the first two pages of the answer book.
2. Draw labeled diagrams wherever necessary.
3. All questions are compulsory.

I. Objective type questions :

5 X 1= 5 Marks

Answer in a word, or a phrase or a sentence.

1. Name the causative agent of amoebiasis.
2. What is polyp ?
3. What are flame cells ?
4. Name the intermediate host of *Wuchereria bancrofti*.
5. What is metamerism ?

II. Short answer questions.

Answer any THREE of the following.

3X 3= 9 Marks

6. Mention the levels of biodiversity.
7. Write the economic importance of insects.
8. Write the labelled diagram of excretory system of Leech.
9. List the unique features of Hemichordata.
10. Assign the following to their respective classes.

- a) *Taenia solium*
- b) *Spongilla*
- c) *Nereis*
- d) *Cucumaria*
- e) *Mytilus*
- f) *Gorgonia*

Contd...3

III. Medium answer questions.

Answer any FOUR of the following.

4X5= 20 Marks

11. Describe the life cycle of liver fluke with neat labelled diagram.
12. Enumerate the distinctive characters of Phylum mollusca.
13. Describe the circulatory system of Unio.
14. Mention the salient features of Annelida. Give examples.
15. Explain polymorphism in Coelenterata.
16. Mention the unique features of phylum porifera. Give example.

IV. Long answer questions :

2X8=16 Marks

Answer any TWO of the following.

17. Describe the reproductive system of Hirudinaria granulosa.
18. Describe the appendages of Penaeus.
19. Explain structure, life history and pathogenicity of plasmodium Vivax.

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First Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (2018 onwards) (New)

ZOOLOGY

SSA810 : Paper I : Diversity and Functional Anatomy of Non-Chordates

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labelled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following questions.

5 X 2= 10 Marks

1. Mention types of Coelom.
2. Draw a neat labelled diagram of Glochidium Larva.
3. Mention any two classes of Phylum annelida with examples.
4. List the characters of Balanoglossus
5. What is canal system? Mention its types.
6. Define binomial nomenclature.
7. Define metamerism.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Explain reproductive system of Hirudinaria granulosa.
9. Explain general characters of Phylum mollusca.
10. Give an account of Nauplius Larva of Mysis.
11. Explain life cycle of Taenia solium.
12. Briefly explain polymorphism in coelenterata.
13. Explain Syconoid canal system.

III. Explain any TWO of the following.

2X10= 20 Marks

14. Explain general characters of echinodermata classify with example.
15. Explain structure, life history and pathogenicity of Plasmodium vivax.
16. Explain the following :
 - a) Shell structure of Unio
 - b) Affinities of Hemichordata

Contd...2

First Semester B.Sc., Degree Examinations
April / May 2022

(Semester Scheme) (Before 2018-19)

ZOOLOGY

SSA 810 : Paper I : Invertebrates

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labelled diagrams wherever necessary.
2. All questions are compulsory.

I. Objective type questions :

5 X 1 = 5 Marks

Answer in a word, or a phrase or a sentence.

1. Define species.
2. What are Gemmules ?
3. Mention the Zoological name of Earth worm.
4. Define polymorphism.
5. Name two harmful insects to man.

II. Short answer questions.

Answer any **THREE** of the following.

3X 3 = 9 Marks

6. List the six salient features of Phylum coelenterate.
7. Classify the Phylum Platyhelminthes with examples.
8. Define different levels of biodiversity.
9. Draw a labelled diagram of Glochidium larva.
10. Assign the following to their respective phyla.
1) Noctiluca 2) Arenicola 3) Caurasius 4) Leucosolenia 5) Obelia 6) Patella

III. Medium answer questions.

Answer any **FOUR** of the following.

4X5 = 20 Marks

11. Explain the pathogenicity of *Wuchereria bancrofti*.
12. Describe the life cycle of *Tacniasolium*.
13. State general characters of Phylum Echinodermata with examples.
14. Mention the salient features of Phylum Hemichordata

Contd...3

First Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (Before 2018-19)

ZOOLOGY

SSA 810 : Paper I : Invertebrates

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labelled diagrams wherever necessary.
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1. Define species.
2. What are Gemmules ?
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14. Mention the salient features of Phylum Hemichordata

Contd...3

First Semester B.Sc., Degree Examinations
April / May 2022

(Semester Scheme) (Before 2018-19)

ZOOLOGY

SSA 810 : Paper I : Invertebrates

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labelled diagrams wherever necessary.
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I. Objective type questions :

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Answer in a word, or a phrase or a sentence.

1. Define species.
2. What are Gemmules ?
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8. Define different levels of biodiversity.
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1) Noctiluca 2) Arenicola 3) Caurasius 4) Leucosolenia 5) Obelia 6) Patella

III. Medium answer questions.

Answer any **FOUR** of the following.

4X5 = 20 Marks

11. Explain the pathogenicity of *Wuchereria bancrofti*.
12. Describe the life cycle of *Tacniasolium*.
13. State general characters of Phylum Echinodermata with examples.
14. Mention the salient features of Phylum Hemichordata

Contd...3

15. Mention the two distinctive features of the following.

- a) Ascaris b) Spongilla c) Chiton d) Sea – urchin e) Scolopendra

16. Describe the structure of miracidium larva.

IV. *Long answer questions :*
Answer any TWO of the following.

2X8=16 Marks

17. Describe the reproductive system of leech

18. Explain the sexual reproduction in Protozoa.

19. Mention the general characters of Phylum Annelida and classify upto classes with suitable examples.

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Second Semester B.Sc., Degree Examinations

September / October 2022

(CBCS NEP Scheme)

Zoology Core Course - I

NSB0270: Paper II : Biochemistry and Physiology

Time: 2 hrs.]

[Max.Marks:60

SECTION - A

1. **Select the most appropriate answer from the options provided : 10X 1= 10 Marks**

- i. Essential amino acids are those which are
 - a) Synthesized in body
 - b) To be taken from food
 - c) Not required for vital activities
 - d) None of these
- ii. The gastric secretion contains the following except
 - a) HCl
 - b) Amylase
 - c) Pepsin
 - d) Renin
- iii. CO₂ is carried in the blood _____
 - a) As dissolved gases
 - b) As bicarbonate
 - c) In combination with Hemoglobin
 - d) All the above
- iv. The conversion of fibrinogen in to fibrin occurs by
 - a) Prothrombin
 - b) Thrombin
 - c) Platelets
 - d) Thrombophlebitis
- v. Which one is not a part of nervous system
 - a) Cyton
 - b) Axon
 - c) Sarcolemma
 - d) Myelinated fibre
- vi. The non protein part of an enzyme necessary for the enzyme activity is called
 - a) Holoenzyme
 - b) Metalloenzyme
 - c) Isoenzyme
 - d) Prosthetic group
- vii. Filtration of blood occurs in
 - a) Loop of Henley
 - b) Renal papillae
 - c) Glomerulus
 - d) Collecting duct
- viii. Melatonin is produced by
 - a) Thymus
 - b) Pancreas
 - c) Thyroid
 - d) Pineal gland

Contd...2

- ix. Isozyme enzyme have _____
- a) Different structure and same function
 - b) Same structure but different function
 - c) Same structure and same function
 - d) Different structure and different function
- x. Urea cycle converts
- a) Keto acids in to amino acids
 - b) Amino acids in to keto acids
 - c) Ammonia into more toxic form
 - d) Ammonia in to less toxic form

SECTION - B

Answer/Write short notes on any FIVE of the following. : 5X 3= 15 Marks

- 2. Classify lipids with example
- 3. Specificity of enzyme action
- 4. Transamination
- 5. Respiratory pigments
- 6. Electrocardiogram
- 7. Pineal gland
- 8. Conjugated proteins
- 9. Characteristics of muscle twitch

SECTION - C

Answer any THREE questions from the following. 3X 5= 15 Marks

- 10. Explain citric acid cycle.
- 11. Give an account on mechanism of enzyme action.
- 12. Explain components of blood and their function.
- 13. Explain the mechanism pulmonary ventilation.
- 14. Describe the process of urine formation.

SECTION - D

Answer the following:

2X 10= 20 Marks

- 15. a) What are carbohydrates? Classify with examples and add a note on their biological importance.

OR

Contd...3

G.P. Code No.31227

Second Semester B.Sc., Degree Examinations**September / October 2022**

(CBCS NEP Scheme)

Zoology Core Course - I**NSB0270: Paper II : Biochemistry and Physiology**

Time: 2 hrs.]

[Max.Marks:60

SECTION - A

1. **Select the most appropriate answer from the options provided : 10X 1= 10 Marks**
- i. Essential amino acids are those which are
 - a) Synthesized in body
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 - d) None of these
 - ii. The gastric secretion contains the following except
 - a) HCl
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 - c) Pepsin
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 - iii. CO₂ is carried in the blood _____
 - a) As dissolved gases
 - b) As bicarbonate
 - c) In combination with Hemoglobin
 - d) All the above
 - iv. The conversion of fibrinogen in to fibrin occurs by
 - a) Prothrombin
 - b) Thrombin
 - c) Platelets
 - d) Thrombophlebitis
 - v. Which one is not a part of nervous system
 - a) Cyton
 - b) Axon
 - c) Sarcolemma
 - d) Myelinated fibre
 - vi. The non protein part of an enzyme necessary for the enzyme activity is called
 - a) Holoenzyme
 - b) Metalloenzyme
 - c) Isoenzyme
 - d) Prosthetic group
 - vii. Filtration of blood occurs in
 - a) Loop of Henley
 - b) Renal papillae
 - c) Glomerulus
 - d) Collecting duct
 - viii. Melatonin is produced by
 - a) Thymus
 - b) Pancreas
 - c) Thyroid
 - d) Pineal gland

Contd...2

- ix. Isozyme enzyme have _____
- a) Different structure and same function
 - b) Same structure but different function
 - c) Same structure and same function
 - d) Different structure and different function
- x. Urea cycle converts

- a) Keto acids in to amino acids
- b) Amino acids in to keto acids
- c) Ammonia into more toxic form
- d) Ammonia in to less toxic form

SECTION - B

Answer/Write short notes on any FIVE of the following. : 5X 3= 15 Marks

- 2. Classify lipids with example
- 3. Specificity of enzyme action
- 4. Transamination
- 5. Respiratory pigments
- 6. Electrocardiogram
- 7. Pineal gland
- 8. Conjugated proteins
- 9. Characteristics of muscle twitch

SECTION - C

Answer any THREE questions from the following. 3X 5= 15 Marks

- 10. Explain citric acid cycle.
- 11. Give an account on mechanism of enzyme action.
- 12. Explain components of blood and their function.
- 13. Explain the mechanism pulmonary ventilation.
- 14. Describe the process of urine formation.

SECTION - D

Answer the following:

- 15. a) What are carbohydrates? Classify with examples and add a note on their biological importance.

OR

- b) With a labelled diagram describe the structure of mammalian heart and add a note on blood pressure and its regulation.
16. a) Explain the digestion and absorption of food in small intestine.

OR

- b) Answer the following
- i) Write schematic representation of Glycolysis
 - ii) Chemical basis of muscle contraction

- b) With a labelled diagram describe the structure of mammalian heart and add a note on blood pressure and its regulation.
16. a) Explain the digestion and absorption of food in small intestine.

OR

- b) Answer the following
- i) Write schematic representation of Glycolysis
 - ii) Chemical basis of muscle contraction

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Third Year B.Sc., Degree Examinations

November / December 2022

(Directorate of Distance Education)

ZOOLOGY

DSC310: Paper III : Cell Biology, Genetics, Evolution, Apiculture and Sericulture

Time: 3 hrs.]

[Max.Marks:75/85

Instruction to the Candidates :

1. Students who have attended 25 Marks IA scheme will have to answer for total of 75 marks.
2. Students who have attended 15 Marks IA scheme will have to answer for total of 85 marks.
3. All questions are compulsory.
4. One mark questions should be answered in first two pages of the answer book.
5. Draw labeled diagram wherever necessary.
6. Q.No.V is compulsory for 85 marks scheme.

I. Simple answer questions :

10 X 1= 10 Marks

Answer in a word, or a phrase or a sentence.

1. What is Centrifugation ?
2. What is Metastasis ?
3. Mention the sugar present in Honey.
4. What is Bottle neck Phenomenon ?
5. Name a pest of silk worms.
6. What is co-dominance ?
7. What is spermiogenesis ?
8. What is Operon ?
9. What is Muga silk ?
10. What are drones ?

II. Short answer questions :

Answer any FIVE of the following.

5X 3= 15 Marks

11. List out the differences between light and electron microscopes.

Contd...2

Third Year B.Sc., Degree Examinations

November / December 2022

(Directorate of Distance Education)

ZOOLOGY

**DSC311 : Paper IV : Developmental Biology, Environmental Biology, Ethology,
Inland Fisheries and Wild Life Management**

Time: 3 hrs.]

[Max.Marks:75/85

Instruction to the Candidates :

1. Students who have attended 25 Marks IA scheme will have to answer for total of 75 marks.
2. Students who have attended 15 Marks IA scheme will have to answer for total of 85 marks.
3. All questions are compulsory.
4. Simple answer questions should be answered in first two pages of the answer book.
5. Draw neat labeled diagram wherever necessary.
6. Q.No.V is compulsory for 85 marks scheme.

I. Simple answer questions :

10 X1= 10 Marks

Answer in a word, or a phrase or a sentence.

1. What is microlecethal egg? Give an example.
2. What is Coeloblastula?
3. What are extra embryonic membranes?
4. What is pollution?
5. Define ethology.
6. Expand IUCN.
7. Who coined the term Ecosystem.
8. What is monoculture?
9. Define endangered species.
10. What is Blastulation?

II. Short answer questions :

Answer any FIVE of the following.

5X 3= 15 Marks

11. Explain the planes of the cleavage.

Contd...2

Q.P. Code No. 15332

Page No., 1

Third Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (2018-19 onwards)

ZOOLOGY

SSC 810 : Paper III : Ecology, Ethology and Biodiversity

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following questions :

5 X 2= 10 Marks

1. What are food chain and mention their types?
2. List out the atmospheric stratification.
3. Differentiate lentic and lotic systems.
4. How greenhouse gases cause global warming ?
5. Expand GIS and GPS.
6. How does a pheromone affect animal behavior ?
7. What are endangered species and give two examples.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Define ecosystem and explain its components.
9. Give an account on ecological succession.
10. Explain the population growth with 'J' and 'S' shaped curves.
11. Explain the types of Bird Migration.
12. Describe the social organization in Macaques.
13. Explain the levels of Biodiversity. Add a note on values of Biodiversity.

III. Answer any TWO of the following.

2X10= 20 Marks

14. Discuss various types of Animal relationships with suitable examples.
15. Give general principles of court ship behavior. Add a note on courtship behavior in three spined stickle back.

Contd...2

Third Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (2018-19 onwards)

ZOOLOGY

SSC 810 : Paper III : Ecology, Ethology and Biodiversity

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following questions :

5 X 2= 10 Marks

1. What are food chain and mention their types?
2. List out the atmospheric stratification.
3. Differentiate lentic and lotic systems.
4. How greenhouse gases cause global warming ?
5. Expand GIS and GPS.
6. How does a pheromone affect animal behavior ?
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II. Explain briefly any FOUR of the following.

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11. Explain the types of Bird Migration.
12. Describe the social organization in Macaques.
13. Explain the levels of Biodiversity. Add a note on values of Biodiversity.

III. Answer any TWO of the following.

2X10= 20 Marks

14. Discuss various types of Animal relationships with suitable examples.
15. Give general principles of court ship behavior. Add a note on courtship behavior in three spined stickle back.

Contd...2

16. Write a note on :

- a) Threats to Biodiversity
- b) Parental Care in Hippocampus

Third Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (Before 2018-19 Syllabus)

ZOOLOGY

SSC 810 : Paper III : Biochemistry and Physiology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Objective type questions :

5 X 1= 5 Marks

Answer in a word, or a phrase or a sentence.

1. What is 'Beri Beri' ?
2. What is Osmoregulation ?
3. Define respiratory quotient.
4. What is Ptyalin?
5. What are disaccharides ?

II. Short answer questions.

3X 3= 9 Marks

Answer any THREE of the following.

6. Explain the osmoregulation in camel.
7. Mention the clinical importance of enzymes.
8. Explain the types of heart.
9. Draw a neat labelled diagram of multipolar neuron.
10. Explain synaptic transmission.

III. Medium answer questions.

4X5= 20 Marks

Answer any FOUR of the following.

11. Explain Blood pressure.
12. Write a note on Hibernation.
13. Mention the biological importance of lipids.
14. Explain ornithine cycle.
15. Write the structure, Biological importance and deficiency symptoms of Vitamin 'D'.
16. Explain the digestion of Carbohydrates.

Contd...3

IV. Long answer questions :
Answer any TWO of the following.

4X2=8Marks

17. Explain the Physiology of Urine formation.
18. Explain Blood cells.
19. Explain :
 - a. Respiratory pigments.
 - b. A detailed account of AIDS.

Q.P. Code No. 15332

4X2=8Marks

IV. Long answer questions :
Answer any TWO of the following.

17. Explain the Physiology of Urine formation.
18. Explain Blood cells.
19. Explain :
 - a. Respiratory pigments.
 - b. A detailed account of AIDS.

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Fourth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (2018-19 Onwards)

ZOOLOGY

SSD 810 : Paper IV : Animal Physiology, Biochemistry and Biostatistics

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following questions :

5 X 2= 10 Marks

1. Distinguish between Osmoconformers and Osmoregulators.
2. What is Bohr's effect?
3. Classify the animals based on excretion with one example for each type.
4. Mention the deficiency diseases of vitamin A
5. What is Histogram?
6. Write a short note on Random sample.
7. Draw a neat labelled diagram of a multipolar neuron.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Explain digestion of food in the small intestine.
9. Describe the mechanism of breathing.
10. Explain the mechanism of blood clotting.
11. Write the schematic representation of Glycolysis.
12. Classify proteins and add a note on biological significance of proteins.
13. List the clinical importance of Enzymes.

III. Answer any TWO of the following.

2X10= 20 Marks

14. Write a detailed account on the functions of hormones of Adeno hypophysis. Add a note the effects of hypo and hypersecretion.
15. Classify carbohydrates with examples.
16. Describe mechanism of urine formation in mammals.

Contd...2

G.P. Code No. 15432

Page No... 2

Fourth Semester B.Sc., Degree Examinations
September / October 2022

(Semester Scheme Before 2018-19 Syllabus)

ZOOLOGY

SSD 810 : Paper IV : Histology, Ethology and Environmental Biology

[Max.Marks:50]

Time: 3 hrs.]

Instruction to the Candidates :

1. Objective type questions should be answered in the first two pages of the answer book.
2. Draw labeled diagrams wherever necessary.

I. Objective type questions :

5 X 1 = 5 Marks

Answer in a word, or a phrase or a sentence.

1. Define Instinct.
2. What is Anadromous migration? Give one example.
3. Where do you find Leydig cells?
4. What is Circadian rhythm?
5. State the first law of thermodynamics.

II. Short answer questions.

Answer any **THREE** of the following.

3X 3 = 9 Marks

6. List the advantages of bird migration.
7. Write a note on the types of Aggressive behaviour.
8. Elucidate the functions of hormones of neurohypophysis.
9. Explain parental care in Hippocampus.
10. Explain Shelford's law

III. Medium answer questions.

Answer any **FOUR** of the following.

4X5 = 20 Marks

11. What is catadromous migration? Explain catadromous migration in Eels.
12. Explain ecological pyramid of Energy.
13. With a neat labelled diagram explain the histology of Liver.

Contd...3

G.P. Code No. 15432

Fourth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme Before 2018-19 Syllabus)

ZOOLOGY

SSD 810 : Paper IV : Histology, Ethology and Environmental Biology

[Max.Marks:50]

Time: 3 hrs.]

Instruction to the Candidates :

1. Objective type questions should be answered in the first two pages of the answer book.
2. Draw labeled diagrams wherever necessary.

I. Objective type questions :

5 X 1 = 5 Marks

Answer in a word, or a phrase or a sentence.

1. Define Instinct.
2. What is Anadromous migration? Give one example.
3. Where do you find Leydig cells?
4. What is Circadian rhythm?
5. State the first law of thermodynamics.

II. Short answer questions.

Answer any THREE of the following.

3X 3 = 9 Marks

6. List the advantages of bird migration.
7. Write a note on the types of Aggressive behaviour.
8. Elucidate the functions of hormones of neurohypophysis.
9. Explain parental care in Hippocampus.
10. Explain Shelford's law

III. Medium answer questions.

Answer any FOUR of the following.

4X5 = 20 Marks

11. What is catadromous migration? Explain catadromous migration in Eels.
12. Explain ecological pyramid of Energy.
13. With a neat labelled diagram explain the histology of Liver.

Contd...3

14. What is Acid rain? Write an account on causes, effects and preventive measures of acid rain.
15. What is Food web? Explain with an example.
16. Describe man engineered and micro ecosystems.

IV. *Long answer questions :*
Answer any TWO of the following.

2X8=16 Marks

17. Mention the sources and effects of Air pollution. Add a note on controlling measures.
18. Explain Marine habitat with zonation of sea.
19. Explain
 - (a) Histology of ovary
 - (b) Nesting behaviour in Tailor bird.

Fifth Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (2018-19 Onwards New Syllabus)

ZOOLOGY

SSE 810: Paper V: (5.1) : Cell Biology, Micro Biology and Immunology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates:

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following :

5X2= 10 Marks

1. List the differences between Euchromatin and Heterochromatin.
2. Mention the types and functions of Ribosomes.
3. Define a) Endomitosis and b) Metastasis.
4. Write a note on T and B cells.
5. Give a brief account of tumors.
6. What are toxoids? Give an example for toxoid.
7. Write short notes on aspergillosis.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Explain the structure and functions of Centrioles
9. Elucidate symbiotic type of microbial interaction with suitable examples.
10. What are carcinogens? Explain the Physical and Biological carcinogens.
11. Write the significance of Mitosis and Meiosis
12. Explain the structure and functions of IgG.
13. Explain
Characteristics of cancer cell.

III. Answer any TWO of the following.

2X 10= 20 Marks

14. Explain the types of microbial replication strategy. Add a note on basic concepts of genetic recombination types in Bacteria
15. Describe the structure and functions of Plasma membrane. Add a note on cell junctions.

Contd...2

16. Write notes on
- a) Secondary Lymphoid organs
 - b) Prophase - I

Fifth Semester B.Sc., Degree Examinations

April / May 2022

(Semester Scheme) (Before 2018-19 Syllabus)

ZOOLOGY

SSE 810: Paper V: (5.1) Evolution, Palaeontology and Wild life Biology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Objective type questions :

Answer in a word or a phrase or a sentence.

5 X 1= 5 Marks

1. What are homologous organs ?
2. What is red data book ?
3. Expand IUCN.
4. Define gene pool.
5. What are fossils.

II. Short answer questions.

Answer any **THREE** of the following.

3X 3= 9 Marks

6. Explain genetic drift.
7. What is an endangered animal ? Give two examples.
8. Write a note on Brontosaurus.
9. What are casts and moulds ?
10. Give an account of competition.

III. Medium answer questions.

Answer any **FOUR** of the following.

4X5= 20 Marks

11. Explain Hardy Weinberg's law of genetic equilibrium.
12. Give an account of NGO's role in conservation of wild life.
13. Write a note on parasitism.
14. Explain Lamarkism.
15. Write a note on Australopithecus.
16. Give an account of Fauna of tropical rain forests.

IV. Long answer questions :

2X8=16 Marks

Answer any TWO of the following.

17. Describe pre and post zygotic isolating mechanisms.
18. Explain the evolution of Horse.
19. Explain the morphological and anatomical evidences in support of organic evolution.

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Fifth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (2018-19 Onwards New Syllabus)

ZOOLOGY

SSE 810: Paper V: (5.1) : Cell Biology, Micro Biology and Immunology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates:

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following :

5X2= 10 Marks

1. Mention the types of cell junctions.
2. What are mitotic inhibitors ?
3. What is Lytic cycle ? Explain.
4. Draw a neat labelled diagram of lampbrush chromosome.
5. Mention the significance of mitosis.
6. What is apoptosis ?
7. Draw a neat labelled diagram of a bacterium.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Discuss the role of lipids in the maintenance of fluidity in cell membrane.
9. Explain the role of T and B cells in defence mechanism.
10. Give an account of monoclonal antibodies.
11. Describe the structure and function of centrioles.
12. Explain different types of hyper-sensitivity.
13. Briefly explain hepatitis and aspergillosis.

III. Answer any TWO of the following.

2X 10= 20 Marks

14. Give an account of diphtheria and pneumonia.

Contd...2

15. Explain the immune response during tuberculosis and HIV.
16. Describe the process of meiosis I with the help of labelled diagram.

Fifth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme)

ZOOLOGY

SSE 810: Paper V: Evolution, Palaeontology and Wild life Biology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Objective Type questions should be answered in the first two pages of the answer book.
2. Draw labelled diagrams, wherever necessary.

I. **Objective type questions :** 5 X 1= 5 Marks

Answer in a word or a phrase or a sentence.

1. Define genetic drift.
2. Define Atavism.
3. What is mould ?
4. What are vestigial organs ?
5. What are endangered species?

II. **Short answer questions.**

3X 3= 9 Marks

Answer any THREE of the following.

6. Explain mutualism with an example.
7. Write short note on Brontosaurus.
8. Explain the fauna of peninsular India.
9. Explain the types of speciation.
10. Explain Darwin's concept of natural selection.

III. **Medium answer questions.**

4X5= 20 Marks

Answer any FOUR of the following.

11. State and explain Hardy – Weinberg law of equilibrium.

Contd...4

12. Explain Dating of fossils by Radiometry method.
13. Write a note on transient polymorphism.
14. Explain the role of NGO's in wildlife conservation.
15. Explain embryological evidence in favour of organic evolution.
16. Describe Archaeopteryx and add a note on its significance.

IV. Long answer questions :
Answer any TWO of the following.

2X8=16 Marks

17. Trace the important stages in the evolution of Modern Horse.
18. Explain pre and post zygotic isolating mechanisms.
19. Describe wild-life problems.

Fifth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (2018 onwards)

ZOOLOGY

SSE 811 : Paper VI : (5.2) : Applied Zoology, Histology and Bio-techniques

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. *Objective Type questions should be answered in the first two pages of the answer book.*
2. *Draw labelled diagrams wherever necessary.*

I. Answer any FIVE of the following

5 X 2= 10 Marks

1. Comment on economic importance of honey
2. Distinguish between Definitive host and Intermediate host
3. Write the advantages of vermiculture.
4. Give any two examples each for indigenous and exotic poultry breeds
5. Differentiate the characteristics of male and female silk moth.
6. What is staining and mention its types.
7. Define Immuno assay.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Describe life history and pathogenicity of *Schistosoma haematobium*
9. Give a note on effects and control of *Sitophilus oryzae* and *Pyrilla perpusilla*
10. Explain the histology of mammalian liver with a labeled diagram
11. Explain Principle and applications of spectrophotometry.
12. Describe induced breeding technique in carps.
13. Explain Collection, processing and preservation of milk.

Contd...2

III. Answer any TWO of the following.

14. Describe the histology of mammalian Ovary.

15. Write an account on various poultry diseases.

16. Write note on

a) Lac cultivation and processing

b) Structure of silk gland.

Fifth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (Before 2018-19 Syllabus)

ZOOLOGY

SSE 811 : Paper VI : (5.2) : Economic Zoology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Objective type questions :

Answer in a word, or a phrase or a sentence.

5 X 1= 5 Marks

1. Define Morigulture.
2. What is Debeaking?
3. Name any two milch cow breeds.
4. Define culling.
5. What are carps?

II. Short answer questions.

Answer any **THREE** of the following.

3X 3= 9 Marks

6. Describe sting apparatus of honey bee.
7. Write a note on non mulberry silkworms.
8. Briefly explain poultry feed
9. List out the salient features of Amrit Mahal cattle breed.
10. Write a note on integrated fish culture.

III. Medium answer questions.

Answer any **FOUR** of the following.

4X5= 20 Marks

11. Explain grainage activity.
12. Explain modern method of bee keeping.
13. Briefly explain freshwater prawn culture.
14. Give an account on the Mulberry cultivation.
15. Discuss the housing system in dairy animals.
16. Explain the rearing of layers.

Q.P. Code No. 15554

Page No... 4

IV. Long answer questions :

2X8=16 Marks

Answer any TWO of the following.

17. Explain the scientific method of poultry farm management.
18. Describe in detail the rearing of Indian major carps.
19. Give a detailed account on the various diseases and its control measures of silk worm.

Sixth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (Onwards 2018-19 New Syllabus)

ZOOLOGY

SSF 810 : Paper VII : (6.1) Genetics, Molecular Biology and Evolution

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Objective Type questions should be answered in the first two pages of the answer book.
2. Draw labelled diagrams wherever necessary.
3. All questions are compulsory.

I. Answer any FIVE of the following.

5 X 2= 10 Marks

1. What are multiple alleles ? Give an example.
2. What are Analogous organs ? Give an example.
3. What is crossing over ? Mention the significance of crossing over.
4. What is Pleiotropism ? Give an example.
5. What is a jumping gene ? Mention its significances.
6. State Hardy – Weinberg law of genetic equilibrium.
7. What is speciation ? Mention two types of speciation.

II. Explain briefly any FOUR of the following.

4X 5= 20 Marks

8. Explain incomplete dominance with an example.
9. What is polygenic inheritance ? Explain with an example.
10. Explain DNA replication in Prokaryotes.
11. Explain the Prezygatic Isolation mechanism.
12. Explain sex linked inheritance with reference to Drosophila.
13. Write note on
 - a) Wooble hypothesis
 - b) tRNA

Contd...2

Q.P. Code No. 15653

2X10= 20 Marks

III. Answer any TWO of the following.

14. Explain CIB technique.
15. Explain the changes in the evolution of man.
16. Write notes on :
 - a) Rh factor
 - b) Balanced Polymorphism.

Contd...3

Sixth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (Old Syllabus before 2018)

ZOOLOGY

SSF 810 : Paper VII (6.1) : Cell Biology and Developmental Biology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Objective Type questions should be answered in the first two pages of the answer book.
2. Draw labelled diagrams wherever necessary.
3. All questions are compulsory.

5 X 1= 5 Marks

I. **Objective type questions.**

1. What is Synapsis?
2. What is Thylotoky?
3. Define Cleavage.
4. What is mitotic apparatus?
5. Define Exons.

II. **Short Answer Questions.**

Answer any THREE of the following.

3X 3= 9 Marks

6. Draw a neat labelled diagram of blastula of Frog.
7. Mention the Significance of Parthenogenesis.
8. Describe Graffian follicle.
9. How does euchromatin differ from heterochromatin?
10. Mention the types of RNA and their functions.

III. **Medium Answer Questions.**

Answer any FOUR of the following.

4X 5= 20 Marks

11. Explain the structure of Polytene Chromosome.
12. With the help of diagram, describe 48 hrs of Chick Embryo.

Contd...4

Q.P. Code No. 15653

13. Explain the process of Cleavage of Frog.
14. Describe the Watson and Crick model of DNA structure.
15. Explain about Spemann - Mangold experiment.
16. Describe the stages of Mitosis.

IV. Long Answer Questions.

Answer any TWO of the following.

2X 8= 16 Marks

17. What is Placenta? Classify the Placenta based on distribution of villi. Mention any four functions of placenta.
18. Explain Meiosis I with the help of diagram.
19. Explain Genic balance theory.

13. Explain the process of Cleavage of Frog.
14. Describe the Watson and Crick model of DNA structure.
15. Explain about Spemann - Mangold experiment.
16. Describe the stages of Mitosis.

IV. Long Answer Questions.

Answer any TWO of the following.

2X 8= 16 Marks

17. What is Placenta? Classify the Placenta based on distribution of villi. Mention any four functions of placenta.
18. Explain Meiosis I with the help of diagram.
19. Explain Genic balance theory.

Sixth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (Before 2018-19 Onwards Syllabus) (New)

ZOOLOGY

SSF 811 : Paper VIII : 6.2 : Developmental Biology and Animal Biotechnology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Draw labeled diagrams wherever necessary.
2. All questions are compulsory.

I. Answer any FIVE of the following questions.

5 X 2= 10 Marks

1. What are morphogenetic movements?
2. What is radial cleavage? Give an example.
3. Draw a neat labeled diagram of human sperm.
4. Define cleidic egg. Give an example.
5. Mention the significance of fertilization.
6. Draw a neat diagram of cosmid.
7. What are restriction enzymes?

II. Explain briefly any FOUR of the following questions.

4 X 5= 20 Marks

8. Describe the structure and functions of Yolk sac.
9. What are vectors? Describe Plasmid vectors with suitable example.
10. Explain Menstrual cycle.
11. Explain the process of Oogenesis.
12. Explain Northern blotting technique.
13. Describe presumptive organ forming areas and fate maps in Frog.

III. Answer any TWO of the following.

2X10= 20 Marks

14. Describe the principle and method of DNA fingerprinting and its applications.

Contd...2

Q.P. Code No. 15654

15. What is Placenta? Classify different types of placenta based on histology with an example each.
16. What is parthenogenesis? Explain different types with examples and add a note on its significance.

Sixth Semester B.Sc., Degree Examinations

September / October 2022

(Semester Scheme) (Before 2018-19 Syllabus)

ZOOLOGY

SSF 811 : Paper VIII : 6.2 : Genetics and Biotechnology

Time: 3 hrs.]

[Max.Marks:50

Instruction to the Candidates :

1. Part I should be answered in the first two pages of the answer book.
2. Draw labeled diagrams wherever necessary.

PART - I

I. **Objective type questions :**
Answer in a word or a phrase or a sentence.

1 X 5= 5 Marks

1. What are Isoalleles?
2. State Ist law of Mendel.
3. What is crossing over?
4. Expand RFLP.
5. What is nurture?

PART - II

II. **Short answer questions.**
Answer any THREE of the following.

3X 3= 9 Marks

6. Write a note on Y-linked genes.
7. Explain transformation.
8. Explain penetrance and expressivity with an example.
9. Write a note on transgenic animals.
10. Explain DNA Polymerase and DNA Ligase.

PART - III

III. **Medium answer questions.**
Answer any FOUR of the following.

4X5= 20 Marks

11. Describe CLB Technique.
12. Explain the principle and method of Southern blotting.

Contd...4

13. What are multiple alleles? Explain with an example.
14. Explain the scope and basic concept of genetic engineering.
15. Describe the experiment conducted on *Potentilla glandulosa*.
16. Explain:
a) Lambda phage b) Yeast plasmids.

PART - IV

IV. Long answer questions :

2X8=16 Marks

Answer any TWO of the following.

17. Describe the methods of introduction of cloned genes in to the host cell.
18. Explain Polygenetic inheritance with an example.
19. Define Recessive epistasis. Explain with an example.

Zoology