

M.Sc. (ZOOLOGY) SEMESTER – I

ZOL 101: BIOSYSTEMATICS AND TAXONOMY

Instructions:-

Max. Marks : 80

1. Section A consists of 10 short question of 2 marks each . All questions are compulsory.
2. Section B consists of 8 long question of 15 marks each. Attempt any 4 question.

Section – A

Answer in short:-

10X2 = 20

1. What is Numerical taxonomy?
2. Who introduce hierarchy in classification?
3. What is the full form of ICZN?
4. Define taxonomy?
5. What is the main aim of classification?
6. Give five kingdom of life?
7. Give an example of behavioral taxonomy?
8. What is binomial nomenclature ?
9. Which category shows the highest rank of biological classification ?
10. Define Protein taxonomy ?

Section- B

Answer in long :-

4X15 =60

1. Describe the characters and classification of Monera and Protists?
2. What is cytotaxonomy? Explain.
3. Explain the Linnaean hierarchy ?
4. Discuss in detail theories of biological classification ?
5. Give the application of important rules of Zoological nomenclature?
6. Write note on chemotaxonomy ?
7. Write a detailed account on Taxonomic keys ?
8. Describe Numerical Taxonomy ?

M.Sc. (ZOOLOGY) SEMESTER – I

ZOL 102: BIOLOGY OF INVERTEBRATES

Instructions:-

Max. Marks : 80

1. Section A consists of 10 short question of 2 marks each . All questions are compulsory.
2. Section B consists of 8 long question of 15 marks each. Attempt any 4 question.

Section – A

Answer in short:-

10X2 = 20

1. What is Metamerism ?
2. What is the reason behind social evolution ?
3. What is chiasoneury ?
4. What do you mean by Ladder type nervous system ?
5. Comment on book lungs ?
6. What is minor phyla ?
7. What is indirect development ?
8. Draw a diagram of Mysis larva ?
9. Define Lobopodia .Give one example ?
10. What is the difference between synchronous and asynchronous flight mechanism of insects ?

Section- B

Answer in long :-

4X15 =60

1. What an essay on origin and evolution of coelom ?
2. Draw well labeled diagram of –
 - A) Water vascular system of starfish.
 - B) Microtubule and Basal bodies.
3. Write a detailed account on locomotion in protozoans ?
4. Describe flight mechanism of insects ?
5. Write a brief note on Crustacean larva ?
6. What is invertebrate larvae ? Give a brief account on Molluscs larva?
7. Give an account of respiratory structure and mechanism of respiration in Insects ?
8. Write short notes on any three-
 - A) Nervous system of Neries
 - B) Respiratory organ of Prawn
 - C) Labelled diagram of Nervous system of Pila
 - D) Gills of Unio
 - E) Mechanism of respiration in Pila

M.Sc . (ZOOLOGY) SEMESTER – I

ZOL 103: BIOCHEMISTRY

Instructions:-

Max. Marks : 80

1. Section A consists of 10 short question of 2 marks each . All questions are compulsory.
2. Section B consists of 8 long question of 15 marks each. Attempt any 4 question.

Section – A

Answer in short:-

10X2 = 20

1. What are the functions of lipids ?
2. Write structure of cholesterol ?
3. What is Zwitterion ?
4. Name the method of protein sequencing ?
5. Write down the structure of Methionine ?
6. What do you mean by free energy ?
7. What is glycogenesis and glycogenolysis ?
8. Explain transamination reaction ?
9. Write about Holoenzyme ?
10. Write note on Cofactor and Prosthetic group ?

Section- B

Answer in long :-

4X15 =60

1. Write down the classification of amino acids ?
2. Explain ion exchange chromatography in detail ?
3. Write short notes on (any 2)
 - a) Peptide bond
 - b) α -helix
 - c) Protein purification
4. Write a detailed account of polysaccharides ?
5. Write short notes on
 - a) Terpenoids
 - b) Nomenclature, structure and properties of fatty acids ?
6. Explain the mechanism of ATP biosynthesis via electron transport system ?
7. Explain the mechanism of beta oxidation ?
8. Discuss in detail the properties of Enzymes ?

M.Sc . (ZOOLOGY) SEMESTER – I

ZOL 1 A02: GENETICS

Instructions:-

Max. Marks : 80

1. Section A consists of 10 short question of 2 marks each . All questions are compulsory.
2. Section B consists of 8 long question of 15 marks each. Attempt any 4 question.

Section – A

Answer in short:-

10X2 = 20

1. Define reciprocal cross ?
2. What is the significance of Mendalian law ?
3. Give modified Mendalian ratio for Duplicate gene interaction and Complementary gene interaction ?
4. Explain Wobble hypothesis ?
5. What are protooncogenes ?
6. What are pseudogenes ?
7. Define Recombination frequency ?
8. Define sex influenced inheritance ?
9. What do you mean by non – disjunction ?
10. Define cytogenetics ?

Section- B

Answer in long :-

4X15 =60

1. Explain :-
 - a) Lethal genes
 - b) Difference between codominance and incomplete dominance
2. Explain the pedigree analysis in detail ?
3. Explain transposable genetic material ?
4. Write short notes on any two –
 - a) Genetics code
 - b) Split genes
 - c) Overlapping genes
 - d) Tumor suppressor genes
5. Describe colour blindness ?
6. Short notes on -
 - a) Dosage compensation
 - b) Coupling and repulsion hypothesis
 - c) Concept and significance of crossing over
7. Give a brief account on cytogenetics of human chromosomes ?
8. Write short notes on (any two) -
 - a) Cystic fibrosis
 - b) Sickle cell anemia
 - c) Hutington's disease

M.Sc . (ZOOLOGY) SEMESTER – I

ZOL 1 A03 : APPLIED ZOOLOGY

Instructions:-

Max. Marks : 80

1. Section A consists of 10 short question of 2 marks each . All questions are compulsory.
2. Section B consists of 8 long question of 15 marks each. Attempt any 4 question.

Section – A

Answer in short:-

10X2 = 20

1. Pebrin disease caused by ?
2. Write the name of harmful Protozoa ?
3. Write the species name of lac culture ?
4. What are the essential requirement for a cultured fish ?
5. Name main types of carps ?
6. Name fresh water prawn species for culture ?
7. Which is the chief centre of fur market ?
8. How curd is formed from milk ?
9. Define serum theory in the formation of antibodies ?
10. What are pest ?

Section- B

Answer in long :-

4X15 =60

1. Write an essay on Honey bees culture ?
2. Write the economic importance of beneficial and harmful helminthes ?
3. Give a detailed account on by product of fishing industry ?
4. Explain pearl culture in detail ?
5. Give account of recent efforts in leather industry ?
6. Give detailed account of the dressing, dying and caring of fur ?
7. Write short notes on –
 - a) Removal of wool from sheep
 - b) Piggery products
 - c) Processing and marketing of milk
8. Describe the life history, nature of damage and prevention and control of any two storage pests ?

