April - 2024

TYBSC-
Zoology

SEM - VI

No of pages - 7

TYBSC

(1)

Duration: 2 ½ Hours **Maximum Marks: 60**

Instructions-

1. All questions are compulsory.
2. All questions carry equal marks.
3. Draw neat and labeled diagram wherever necessary.

Q. 1 Answer **any three** questions from the following.

a) Phylogenetic affinities of *Herdmania*. 4

b) Life history of *Branchiostoma*. 4

c) Terrestrial adaptations in Reptiles. 4

d) Origin of Birds and affinities with Reptiles. 4

e) Male reproductive and urinary ducts in Mammalia. 4

f) Sense organs – Eyes. 4

g) Lateral line sense organ and electric organs. 4

h) Dentition in mammals. 4

Q. 2 Answer **any two** questions from the following.

a) Write an elaborate note on: Protochordates – similarities and differences with Invertebrates and Chordates. 6

b) Explain life history of *Petromyzon*. 6

c) Describe salient features and biological significance of Ostracoderms. 6

Q. 3 Answer **any two** questions from the following.

a) Explain the origin of air bladder and its relationship with tetrapod lungs. 6

b) Discuss the adaptive radiation in amphibians Lepospondyli and Lissamphibia. 6

c) Discuss the phylogeny of terrestrial and aquatic mammals. 6

Q. 4 Answer **any two** questions from the following.

a) Discuss comparative anatomy of skulls in vertebrates. 6

b) Give comparison between archinephros and metanephros. 6

c) With neat labelled diagrams describe gills, skin and lungs. 6

Q. 5. Answer **any two** questions from the following.

a) Explain retrogressive metamorphosis in Ascidians. 6

b) Give an account on venom apparatus and biting mechanism in snakes. 6

c) Explain flight adaptations in class Aves. 6

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Paper / Subject Code: 88666 / Zoology: Environmental Biology & Zoopharma

T4BSc - Sem - VI

[Time: 03 Hours.] [Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.
2. Figures to the right indicate full marks.
3. Draw neat and labelled diagrams wherever necessary.
4. Answer the questions in proper order.

Q. 1 Describe Any Two of the following: (20)

a) Energy resources
b) Water (Prevention and Control of Pollution) Act, 1974.
c) Rainwater harvesting

Q. 2 Explain Any Two of the following: (20)

a) Describe types of trees harvesting.
b) Techniques involved in wildlife census.
c) Describe types of habitat and territories.

Q. 3 Give an account on Any Two of the following: (20)

a) Economic value of Bioprospecting
b) Methods of self-medication through geophagy
c) Applications of Zoopharmacognosy

Q. 4 Describe Any Two of the following: (20)

a) Isolating mechanisms
b) Patterns of animal distribution
c) Zoogeography of Ethiopian realm

Q. 5 Write short notes on: (Any Four) (20)

a) Solar energy.
b) e-waste management
c) Capture mark recapture method
d) Modern bioprospecting
e) Contribution of Zoopharmacognosy to human medicines
f) Fauna of Australian region

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TYBSc - sem VI

[Time: 03 Hours.] [Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.
2. Figures to the right indicate full marks.
3. Draw neat and labelled diagrams wherever necessary.
4. Answer the questions in proper order.

Q. 1 Describe Any Two of the following: (20)

a) Concept of activation energy.
b) Derivation of Michaelis – Menten equation with graph.
c) Applications of enzymes in food industry.

Q. 2 Explain Any Two of the following: (20)

a) Feedback mechanism and its types with suitable example.
b) Endothermy its advantages and disadvantages.
c) Mechanism of daily Torpor.

Q. 3 Give an account on Any Two of the following: (20)

a) General organization of mammalian endocrine system.
b) Hormones of Pancreas and its disorders
c) Histological structure of Thyroid gland, its hormones, and their functions

Q. 4 Describe Any Two of the following: (20)

a) Primary and established cell lines.
b) Enzymatic preparation of cells for tissue culture.
c) Types of artificial culture media.

Q. 5 Write short notes on: (Any Four) (20)

a) Coenzymes.
b) Aestivation.
c) Parathormone
d) Advantages of cell culture.
e) Importance of sterility in cell culture.
f) Disorders of Adrenal gland

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TYBSc — sem VI - Zoology

[Time: 03 Hours.] [Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.
2. Figures to the right indicate full marks.
3. Draw neat and labelled diagrams wherever necessary.
4. Answer the questions in proper order.

Q. 1 Describe Any Two of the following: (20)

a) General characteristics of subphylum Vertebrata with examples.
b) Annelids and Arachnids as ancestors of chordates.
c) Classify subphylum Urochordata and give the general characters of its classes.

Q. 2 Explain Any Two of the following: (20)

a) General characters of class Chondrichthyes with description with suitable example.
b) Habit, habitat of Dipnoi and parental care in *Protopterus* and *Lepidosiren*.
c) Classification and characters of *Hyla* with neat labeled diagram.

Q. 3 Give an account on Any Two of the following: (20)

a) Distinguishing characters of Aves.
b) Classification and general features of *Sorex* and *Macaca*.
c) General characters of class Reptilia. Add note on *Chelonia* and *Chamaeleo*.

Q. 4 Describe Any Two of the following: (20)

a) Habit, habitat, distribution and economic importance of *Scoliodon*.
b) Digestive system of dogfish with neat labelled diagram.
c) Olfactory apparatus, eyes and ampullae of Lorenzini of *Scoliodon*.

Q. 5 Write short notes on: (Any Four) (20)

a) *Branchiostoma* with diagram
b) General characters of class Osteichthyes
c) *Ichthyophis*
d) *Melanerpes*
e) *Bradypus*
f) Heart of *Scoliodon*

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T4BSC sem VI

Duration:3 hrs. Maximum Marks: 100

Note Before: 1] All questions are compulsory and carry equal marks.
2] Figures to the right indicate full marks.
3] Draw neat labelled diagrams wherever necessary.

Q. 1 Describe the following... (Any two)
a) Mineral resources 10
b) Environmental Impact Assessment 10
c) Ice-stupa artificial glaciers by SonamWangchuk 10

Q. 2 Explain the following... (Any two)
a) Concept of niche 10
b) Wildlife radio telemetry 10
c) Indian Forest Conservation Act 10

Q. 3 Describe the following... (Any two)
a) Advantages and disadvantages of bioprospecting 10
b) Methods of self-medication through ingestion and Geophagy 10
c) Traditional and modern bioprospecting 10

Q. 4 Explain the following... (Any two)
a) Isolating mechanisms 10
b) Oriental realm 10
c) Patterns of animal distribution 10

Q. 5 Write short notes on.... (Any four) 20
a) Renewable energy resources
b) Solid waste management
c) Marine Habitats
d) Deforestation
e) Economic value of Bioprospecting
f) Climatic barriers of distribution

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TYBSC Sem VI

[Time: 03 Hours.] [Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.
2. Figures to the right indicate full marks.
3. Draw neat and labelled diagrams wherever necessary.
4. Answer the questions in proper order.

Q. 1 Describe Any Two of the following: (20)

a) Transition and transversion mutations
b) Chemical agents that induce DNA mutation
c) Mechanisms that prevent DNA damage.

Q. 2 Explain Any Two of the following: (20)

a) Nomenclature and types of restriction enzymes
b) Sanger's method of DNA sequencing
c) Genomic and cDNA libraries

Q. 3 Give an account on Any Two of the following: (20)

a) Albinism with symptoms, causes and Types.
b) Mutation with reference to inversion.
c) Non-disjunction of Autosome.

Q. 4 Describe Any Two of the following: (20)

a) BLAST
b) Bioinformatics web resource - NCBI
c) Metabolomics concept and applications

Q. 5 Write short notes on: (Any Four) (20)

a) DNA methylation
b) Insertion and deletion mutations
c) Reverse transcriptase used in rDNA technology
d) Genetic test – Amniocentesis.
e) Translocation with respect to Down's syndrome.
f) Derived data base - BLOCKS

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TYBSc Sem VI

[Time: 03 Hours.] [Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.
2. Figures to the right indicate full marks.
3. Draw neat and labelled diagrams wherever necessary.
4. Answer the questions in proper order.

Q. 1 Describe Any Two of the following: (20)

a) General characteristics of Urochordata.
b) Trace the origin of chordates to echinoderm ancestry.
c) General characters of class Ostracodermii with example Cephalaspis

Q. 2 Explain Any Two of the following: (20)

a) General characters of class amphibia with the suitable example
b) Characters of Superclass Pisces with suitable example
c) Characters of Tailed amphibian with suitable example

Q. 3 Give an account on Any Two of the following: (20)

a) General characters of class Reptilia with the description of suitable example.
b) Egg laying mammal and Primates
c) General characters of class Aves with the description of Terrestrial bird

Q. 4 Describe Any Two of the following: (20)

a) Habit, habitat and systematic position of Shark with reason.
b) Respiratory system of Shark.
c) Male Urinogenital system of Shark.

Q. 5 Write short notes on: (Any Four) (20)

a) Amphioxus
b) Class cyclostomata
c) *Hyla*
d) *Chamaeleon*
e) *Bradypus*
f) Economic importance of Shark

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