

3 SEM TDC ZOOH (CBCS) C 5

2023

(Nov/Dec)

ZOOLOGY

(Core)

Paper : C-5

(Diversity of Chordates)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Fill in the blanks : 1×5=5

(a) Tunicates belong to sub-phylum _____.

(b) Auricularia larva is found in _____.

(c) Fishes restricted to either salt or fresh-water are called _____.

(2)

(d) Limbs are absent in order _____ of class Amphibia.

(e) Cyclostome have _____ chambered heart.

2. Write short notes on the following (any three): $4 \times 3 = 12$

(a) Plate tectonic theory

(b) Affinities of prototheria

(c) Archaeopteryx

(d) Retrogressive metamorphosis in urochordates

(e) Origin of tetrapods

3. Describe the biting mechanism of snakes. 6

Or

Describe the general characteristics of chordates.

4. Describe the general characteristics and classification of up to class in cyclostomata. $5 + 5 = 10$

Or

Describe Dipleurula concept of origin of chordates and outline the advanced features of vertebrates over prototheria. $5 + 5 = 10$

(3)

5. Define the term 'migration'. Describe the different types of fish migration with examples and discuss its advantages. $2 + 5 + 3 = 10$

Or

What is parental care? Describe different modes of parental care in fishes. $2 + 8 = 10$

6. Write ten general characteristics of phylum Mammal. Describe the adaptive radiation in mammals. $5 + 5 = 10$

Or

Define zoogeographical realms. Describe continental drift theory proposed by Alfred Wegener and give an account of the evidences in support. $2 + 8 = 10$

3 SEM TDC ZOOH (CBCS) C 6

2 0 2 3

(Nov/Dec)

ZOOLOGY

(Core)

Paper : C-6

**(Animal Physiology : Controlling and
Coordinating Systems)**

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Fill in the blanks :

1×5=5

- (a) The cell of the cartilage is known as ____.
- (b) The human skeleton consists of ____ bones.
- (c) The junction of two neurons is called ____.

(2)

- (d) All the hormones secreted by adrenal cortex are chemically _____ in nature.
- (e) Myelin sheath in CNS is formed from _____.

2. Distinguish between the following (any three) : $3 \times 3 = 9$

- (a) Squamous and Cuboidal epithelial cells
- (b) Cartilage and Bone
- (c) Erythrocyte and Leucocyte
- (d) Resting membrane potential and Action potential
- (e) Histology of Testis and Ovary

3. Write short notes on any three of the following : $4 \times 3 = 12$

- (a) Types of muscle
- (b) Classification of hormones
- (c) Physiology of vision
- (d) Methods of contraception
- (e) Placental hormones

(3)

4. What is muscular tissue? Write about the types of muscular tissue and the characteristics of muscle twitch. $1+5+3=9$

Or

What is neuron? Describe about the structure of neuron with suitable diagram. $1+5+3=9$

5. What is threshold stimulus? Write about the process of generation and transmission of action potential. $1+4+4=9$

Or

What is synapse? With the help of proper diagram, explain about the transmission of nerve impulse through neuromuscular junction. $1+8=9$

6. Write about the signal transduction pathways for steroidal and non-steroidal hormone. 9

Or

Write about the hormones secreted by pituitary gland and their mechanism of action. $5+4=9$

3 SEM TDC ZOOH (CBCS) C 7

2023

(Nov/Dec)

ZOOLOGY

(Core)

Paper : C-7

(Fundamentals of Biochemistry)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Fill in the blanks : 1×5=5

(a) Pentose sugar present in RNA is ____.

(b) Different functional forms of gene are called ____.

(c) In neutral lipid, all the three molecules of fatty acids are attached to a molecule called ____.

(2)

- (d) Myoglobin shows _____ structure of proteins.
- (e) Two types of pathways lead to synthesis of nucleotides—de novo pathway and _____ pathway.

2. Distinguish between the following (any two) :
4×2=8

- (a) Secondary and Tertiary protein structure
- (b) Competitive and Non-competitive inhibition of enzyme
- (c) Saturated and Unsaturated fatty acids

3. Write short notes on any two of the following :
4×2=8

- (a) Types of DNA
- (b) Isomerism and its significance
- (c) Properties of amino acids

4. Describe the biological functions of protein. Classify protein on the basis of structural organization.
3+7=10

Or

What is RNA? Explain with schematic diagrams and functions of different types of RNA molecules.
1+3+6=10

(3)

5. Justify that 'lipids are a heterogeneous group of chemical substances'. How does unsaturation affect the physical properties of fatty acids?
6+4=10

Or

What is antigenic determinants? Describe the classes and functions of immunoglobulin.
4+6=10

6. Explain the mechanism of enzyme action. What is K_m value? Mention its significance.
5+3+4=12

Or

What are the factors that affect the rate of enzyme action and how? Classify enzyme according to IUB rules.
6+6=12
