

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1921

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Unique Paper Code : 6792012402

Name of the Paper : Animal Physiology

Name of the Course : **B.Sc. Honors Biological Sciences (NEP) 2026**

Semester : IV

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions. **Question No. 1 is Compulsory.**
3. All questions carry equal marks.

1. (a) Define the following (any four):

(1x4=4)

- i. Thermogenesis
- ii. Discontinuous respiration
- iii. Smoltification
- iv. Mechanoreceptors
- v. Action potential
- vi. Allen's Rule

(b) Distinguish between (any two):

(2x2=4)

- i. Chemical synapse and electrical synapse
- ii. Poikilothermy and Homeothermy
- iii. Intracellular and extracellular digestion
- iv. Osmoconformers and Osmoregulators

(c) Give the location and explain the function of the following (any two) (2 x2= 4)

- i. Chloride cells
- ii. Jacobson's organ
- iii. Macula
- iv. Blubber

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(d) Give reasons for the following:

(1.5x2=3)

- i. Fishes living in freshwater secrete diluted urine.
- ii. Abomasum is called as true stomach

2. (a) Elucidate Osmoregulation in Marine Fishes.

(b) What are some of the key adaptations that enable camels to thrive in extreme environments?

(7.5 x 2 =15)

3. (a) Describe how an action potential is propagated across a myelinated nerve?

(b) Classify different types of receptors based on their function. Add a note on lateral-line system.

(7.5 x 2 =15)

4. (a) What is cardiac output, and what factors affect its regulation?

(10)

(b) Explain the adaptations of Marine Reptiles and Birds to maintain Osmotic balance. (5)

5. (a) Explain the role of enzymes in extracellular digestion of carbohydrates and proteins.

(b) How do the structural and functional adaptations of the avian respiratory system support efficient gas exchange?

(7.5 x 2 =15)

6. Write short notes on **any three** of the following:

(5 x 3= 15)

- (a) Heterothermy
- (b) Echolocation in bats
- (c) Cellulose digestion in horse
- (d) Open and Closed Circulatory System