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4. (a) Explain the anatomical and physiological features of fish respiration.
- (b) Describe various feeding mechanisms in animals.
(7.5×2=15)
5. (a) Describe osmoregulation in marine elasmobranchs
- (b) Describe osmoregulation in freshwater teleost fishes.
(7.5×2=15)
6. Write short notes on **any three** of the following :
(5×3=15)
- (a) Mechanoreception in animals
- (b) Cellulose digestion in ruminants
- (c) Adaptations of Arctic fox for cold environment
- (d) Thermogenesis
- (e) Coprophagy in rodents
- (f) Adaptations of Kangaroo rat for osmoregulation

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4091

H

Unique Paper Code : 6792012402

Name of the Paper : Animal Physiology

Name of the Course : **B.Sc. (Hons.) Biological Sciences (NEP) 2024**

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.
3. Question No. 1 is compulsory.
4. **All** questions carry equal marks.
5. All parts of a question should be answered together.

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1. (a) Define the following (**any four**) : (1×4=4)

- (i) Electoreceptors
- (ii) Smoltification
- (iii) Freeze-tolerant animals
- (iv) Vomeronasal organ
- (v) Ram Ventilation
- (vi) Digestive vacuole

(b) Distinguish between (**any two**) : (2×2=4)

- (i) Hibernation and Torpor
- (ii) Single and Double circulatory system
- (iii) Diffusion Lung and Ventilation Lung
- (iv) Infrared and Infrasound perception

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

- (i) BAT
- (ii) Statocyst

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(iii) Gizzard

(iv) Radula

(d) Give reasons for the following (**any three**) :

(1×3=3)

- (i) Abrasives can be used as insecticides
- (ii) Snakes continuously expose their tongues to air
- (iii) Respiration in birds is more efficient than in mammals
- (iv) Faeces of horse is coarse as compared to cattle dung

2. (a) Explain how changes in heart rate or stroke volume affect cardiac output.

(b) Explain the various adaptations of camel to survive in extreme environment. (7.5×2=15)

3. (a) Discuss the general principles of sensory physiology. Add a note on chemoreceptors.

(b) Explain the role of sonar system in animals. Add a special note on bat sonar system. (7.5×2=15)

P.T.O.