



M.Sc. (PREVIOUS) EXAMINATION, 2015-16

**Zoology - IV
(General Physiology)**

Attempt all five questions. All questions carry equal marks.

1. Explain the following in not more than 25 words:-

- (a) Winter sleep
- (b) Respiratory Alkalosis
- (c) Osmoconformers
- (d) Chloride shift
- (e) Heatstroke
- (f) Jacobson's organ
- (g) Steroid Hormones
- (h) Ecolocation
- (i) Erythropoietin
- (j) Trophic hormones
- (k) Oxygen deficient stress
- (l) Homeostasis
- (m) Calcitonin
- (n) Myoglobin
- (o) Haemostasis
- (p) Acromegaly
- (q) Prostaglandins
- (r) Ketone bodies
- (s) Parkinson's disease
- (t) Bohr's Effect in Gaseous Exchange.

2. Write notes on following (any two):-

- (a) Hybernation and aestivation
- (b) Poikilotherm animals
- (c) Mesonephric and metanephric kidney
- (d) Synapses

3. Write notes on following (any two):-

- (a) Auditory receptors
- (b) Memory and learning
- (c) Yoga and their effects
- (d) Role of prolactin hormones.

4. What happens if calcium concentration decreases in muscle? Give detail account of muscle construction and various theories about muscle construction.

Or

Describe about functional unit of kidney and give detail account on urine formation process.

5. Describe various types of hormones and hormone action.

Or

Describe stress biology of environmental stress and body exercise.



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1. Explain the following in not more than 25 words:-

- (a) Endotherm
- (b) Torpor
- (c) Osmoregulation
- (d) Hypoxia
- (e) Actin
- (f) Influx of Na
- (g) "Z" line
- (h) Synaptic cleft
- (i) Olfactory receptors
- (j) Rods
- (k) Synapse
- (l) Memory
- (m) Stress
- (n) Acclimation
- (o) Milk letdown hormone
- (p) Homeostasis
- (q) Eccentric contraction of muscle
- (r) Hashimoto's disease
- (s) Rathke's pouch
- (t) Autocrine regulation

2. Write notes on:-

- (a) Echolocation in bat.
- (b) Effects of starvation

Or

- (a) Meditation
- (b) Mechanism of hormonal action.

3. Explain the following:-

- (a) Cori cycle
- (b) N₂ Narcosis

Or

- a) Counter-current heat exchanger
- b) Excitation-contraction coupling

4. Write an account on the molecular theory of muscle contraction.

Or

Describe the phylogeny of endocrine glands.

5. Describe the physiological response to oxygen deficient stress.

Or

Explain in detail about adenohipophyseal hormones.