

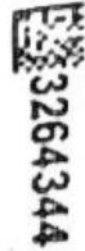
5664

M.Sc. (Previous) Examination - 2024

Zoology

Fourth Paper

[General Physiology]



Time Allowed: Three Hours

Maximum Marks: 100

Note: - In M.Sc. Zoology Previous Examination the theory papers will have the following pattern.

Question papers will have 5 (five) questions in all having equal marks.

(i) Question number 1 will be compulsory and will have 20 very short answer questions of 1 mark each.

(ii) Question numbers 2 and 3 will consist of only short answer type questions with 4 subdivisions of 5 marks each. There will be internal choice in these questions.

(iii) Question numbers 4 and 5 will be long answer type questions with internal choice.

No supplementary answer book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer book only.

All the parts of one question should be answered at one place in the answer book. One complete question should not be answered at different places in the answer book.

I. Very short answer type questions:

[20×1=20]

- (a) What are Osmo Conformers?
- (b) Why are hormones called as Chemical Messengers?
- (c) What is Haldane Effect?
- (d) What is Starvation?
- (e) Who discovered Reflex Action?
- (f) Define Acclimation.
- (g) Who are Euryhaline Animals?
- (h) What is Cyanosis?
- (i) Write the characteristics of mammals living on poles.
- (j) Differentiate between Hibernation and Aestivation.
- (k) Which organ is considered as the major center for homeostatic function in vertebrates?
- (l) Differentiate between Elastic Strain and Plastic Strain.
- (m) What is Hypercapnia?
- (n) Differentiate between Hypoxia and Anoxia.
- (o) What is Resting Membrane Potential?
- (p) What is Heat Rigor?
- (q) Name the Hormone of Stress.
- (r) Which Vitamin act as Hormone?
- (s) What do you understand by Eccentric Contraction of Muscles?
- (t) Define Acromegaly.

2. Write short notes on the following:

[4×5=20]

- (a) Oxygen Dissociation Curve
- (b) Role of Hemoglobin
- (c) Heat Balance and Exchange
- (d) Endotherms versus Ectotherms

OR

- (a) Excitation-Contraction Coupling
- (b) Conditional Reflex Action
- (c) Memory and Learning
- (d) Swim Bladder Inflation in Fishes

3. Write short notes on the following:

[4×5=20]

- (a) Auditory Receptors
- (b) Echolocation
- (c) Yoga and its Effects
- (d) Role of Prolactin Hormone

OR

- (a) Effect of Hormone on Growth
- (b) Concept of Homeostasis
- (c) Physiological Response to Body Exercise
- (d) Nutritional Uptake and Distribution

4. ~~(a)~~ Explain the Mechanism of Osmoregulation in marine animals.

[10]

~~(b)~~ Explain the molecular theory of Muscle Contraction.

[10]

OR

- (a) Describe the Counter-Current Mechanism of Urine Concentration.
- (b) Explain the Mechanism of O<sub>2</sub> and CO<sub>2</sub> transportation in blood.

5. Explain in detail the Adeno-Hypophyseal Hormones, their chemistry and physiology.

[20]

OR

Write an account of Hormones involved in Reproduction.

-----