

Total Pages : 8

AB-234346

M.Sc. (Semester-IV) Examination, June-2025

(Backlog)

ZOOLOGY

(Comparative Endocrine Physiology)

Time Allowed : Three Hours

Maximum Marks : 70

Note : This question paper is divided into four sections. All sections are **compulsory**. Attempt questions as per instructions given in each section.

SECTION-A

(Objective Type Questions)

Note : Attempt **any ten** questions. Each question carries 1 mark. [10x1=10]

AB-234346/500

(1)

[P.T.O.]



1. (A) Fill in the blanks :

- (i) Which hormone is known as Sunshine hormone
.....
- (ii) Corpus allata secretes.....hormone.
- (iii) Calcitonin and Parathormone controls the
.....homeostasis in body.
- (iv) Precursor of all the steroid hormone is.....
- (v) In fish,.....gland plays a key role in osmoregulation by producing prolactin and cortisol.
- (vi) In insects,.....hormone regulates molting and metamorphosis.

(B) Multiple Choice Questions :

- (vii) Juvenile hormone is secreted by the gland :
 - (a) Corpus allata
 - (b) Corpus cardiaca
 - (c) Corpus luteum
 - (d) Corpus hemorrhagicum

AB-234346/500 (2)

(viii) The hormone responsible for "flight and fight" is :

- (a) Thyroxine and Melatonin
- (b) Insulin and Glucagon
- (c) Epinephrine and Nor-epinephrine
- (d) Estrogen and Progesterone

(ix) Blood pressure and Water balance is regulated by hormone :

- (a) Renin
- (b) Epinephrine
- (c) Angiotensin
- (d) Aldosterone

(x) Which one is not the function of Insulin ?

- (a) Decreasing glycogenolysis
- (b) Lipogenesis
- (c) Gluconeogenesis
- (d) Glucogenesis

AB-234346/500 (3)

[P.T.O.]



(xi) Which one of the following endocrine glands in mammals lacks a true blood-brain barrier ?

- (a) Posterior pituitary
- (b) Pineal gland
- (c) Adrenal medulla
- (d) Hypothalamus

(xii) Which of the following is a neuroendocrine transducer in the hypothalamic - pituitary - interrenal (HPI) axis in fish ?

- (a) Prolactin
- (b) Cortisol
- (c) CRH
- (d) Thyrotropin

SECTION-B

(Very Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **2** marks.
[5x2=10]

AB-234346/500

(4)

2. (i) Hormone
- (ii) Chemical nature of Ecdysone
- (iii) Urophysis
- (iv) Ultimo-branchial body
- (v) Parathyroid gland
- (vi) Calcitonin
- (vii) Vitellogenesis

SECTION-C

(Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **4** marks.
[5x4=20]

3. (i) Catecholamine biosynthesis
- (ii) Evolution of Viviparity
- (iii) Renin-Angiogenesis systems in Vertebrate
- (iv) Synthesis of Parathyroid hormone

AB-234346/500

(5)

[P.T.O.]



- (v) Gluconeogenesis
- (vi) Glucose homeostasis
- (vii) Phylogeny of Endocrine gland system

SECTION-D

(Essay Type Questions)

Note : Attempt **any three** questions. Each question carries **10** marks. [10x3=30]

4. (i) Explain how pituitary gland evolved in different vertebrates in detail.
- (ii) Explain feeding behaviour and gastro intestinal hormone actions in vertebrates.
- (iii) Describe endocrine control of various physiological mechanisms in insects and crustaceans.
- (iv) Explain evolution of thyroid gland and synthesis and regulation of thyroid gland in detail.

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AB-234346/500

(6)