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3. (a) Explain how Parathormone regulates calcium homeostasis.
- (b) What does the hypothalamus's structure entail? Additionally, provide a concise overview of the different nuclei within the hypothalamus. (6,6)
4. (a) Elaborate on the mechanisms of action for steroid hormones in classical and non- classical ways.
- (b) Elaborate the classification of hormones and their transportation. (7,5)
5. Give a detailed account of the structure, function, and regulation of the Adrenal gland. (12)
6. Write short notes on any **three** of the following : (4×3=12)
- (a) Structure of Pituitary gland
- (b) Hormone receptors
- (c) DAG-Calcium Signaling Systems
- (d) Negative feedback mechanism

(700)

[This question paper contains 4 printed pages.]



Your Roll No.....

05.01.2024 (M)

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Sr. No. of Question Paper : 4618

Unique Paper Code : 32237907

Name of the Paper : Endocrinology (LOCF)

Name of the Course : B.Sc. (H) Zoology

Semester : V

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions, including Question No. 1, which is compulsory.

1. (a) Define the following terms : (1×6=6)

- (i) Steroidogenesis
- (ii) Eicosanoids
- (iii) Circadian rhythm
- (iv) Luteolysis

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(v) Insulin shock

(vi) Neurotransmitter

(vii) Second messenger

(b) Differentiate between the following : (2×4=8)

(i) Acromegaly and Gigantism

(ii) Endocrine and exocrine glands

(iii) Cretinism and Myxoedema

(iv) Diabetes insipidus and Diabetes mellitus

(c) Give the full form of the following abbreviations:

(1×7=7)

(i) PKC

(ii) HHP

(iii) IPs

(iv) PDGF

(v) TRH

(vi) MSH

(vii) LHA

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(d) Fill in the blanks :

(1×6=6)

(i) _____ is the enzyme that converts testosterone to estrogen.

(ii) _____ is the precursor of steroid hormones.

(iii) The testicular cell that produces androgen is _____.

(iv) _____ is the hormone causing the production of milk during lactation.

(v) The hypothalamic hormone _____ causes release of Adrenocorticotrophic hormone from the pituitary.

(vi) The _____ of hormones can vary, affecting their duration of action in the body.

2. (a) Draw a well-labeled diagram of a transverse section of the testis.

(b) Explain the role of the hypothalamo-hypophyseal-testicular axis in the regulation of the secretion of testosterone. (4,8)

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