

2020

ZOOLOGY — HONOURS

Sixth Paper

(Unit - I)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **question no. 1** and **any two** questions from the rest.

1. Answer **any two** questions : 10×2
 - (a) What are synomones? Give example.
 - (b) Mention two functions of prolactin.
 - (c) Distinguish between autocrine and paracrine secretion.
 - (d) Comment on Grave's disease.
 - (e) State the function of FSH in male and in female.
 - (f) What is Bruce Effect?
 - (g) Give the full form and one function of CCK-PZ.
 - (h) Name two key components that are responsible for bioluminescence in insects.

2. (a) What do you understand by feedback control? Explain with a suitable example.
 (b) Distinguish between the mechanism of action of protein hormone and steroid hormone.
 (c) Name the hormone secreted from pineal gland and state its functions. 6+4½+(1½+3)

3. (a) Describe the mechanism of action of IP₃ and DAG as second messenger.
 (b) How T₃ is structurally different from T₄? Mention functional significance of T₃. 7½+3+4½

4. (a) State the role of glucagon in glucose homeostasis.
 (b) What is neurohormone? Give example.
 (c) Comment on Exophthalmic Goitre.
 (d) What do you mean by endocrine disruptors? 4½+(3+1½)+3+3

5. (a) Discuss the effect of any one environmental factor in sex determination of fish.
 (b) State the role of vitamin D₃ in calcium metabolism.
 (c) Name the effectors of cAMP and DAG. 6+6+3

Please Turn Over

6. (a) Write the steps involved in biosynthesis of insulin from preproinsulin.
(b) State the source, structure and function of secretin.
(c) Mention the source and function of Ecdysone. 7½+4½+3
7. (a) Distinguish between Estrous and Menstrual cycle.
(b) Discuss the role of iodide pump in T₃/T₄ biosynthesis.
(c) Comment on the environmental signalling in sex reversals in molluscs. 6+4½+4½
8. (a) Describe the vaginal changes along with diagram and hormonal profile during each phases of estrous cycle.
(b) Discuss the hormonal basis of insect diapause. (6+3)+6
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