

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024  
(Third Semester)

Branch – ZOOLOGY

ENDOCRINOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Which of this statement is incorrect regarding the function of hormones?  
(i) Reproduction and sexual differentiation  
(ii) Maintenance of internal environment  
(iii) Maintain body temperature  
(iv) Development and growth
- 2 Hypothyroidism or an Underactive Thyroid Gland in Children Causes \_\_\_\_\_.  
(i) Myxedema (ii) Acromegaly  
(iii) Goiter (iv) Cretinism
- 3 This hormone is responsible for “fight-or-flight” response  
(i) Thyroxine and melatonin (ii) insulin and glucagon  
(iii) epinephrine and norepinephrine (iv) oestrogen and progesterone
- 4 The neurosecretory tissues that are present in the eyestalk of the crayfish are named a  
(i) X-organ (ii) Null organ  
(iii) Y-organ (iv) Secretory organ
- 5 Pituitary hormone triggering the male testes to generate sperm and in females, triggering follicular development on a monthly basis is  
(i) follicle-stimulating hormone (ii) luteinizing hormone  
(iii) growth hormone (iv) prolactin

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a) Classify the general classes of chemical messengers.  
OR  
b) Analyze the modern technologies of endocrinology.
- 7 a) Discuss the effects of thyroid dysfunction on pregnancy and fetal development.  
OR  
b) Evaluate the hormone produced by the intermediate lobe of pituitary gland. Add a note on their functions.
- 8 a) Analyze the function of insulin on liver, muscle and adipose tissue.  
OR  
b) Classify the hormones secreted from the adrenal gland.

Cont...

9 a) Explain how the neuroendocrine system interacts with the metamorphosis of crustaceans.

OR

b) Prepare a note on the structure and functions of corpora cardiaca.

10 a) Illustrate the structure of mammalian testis.

OR

b) Discuss the different phases of the estrous cycle.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11 a) Appraise the main challenges in developing new treatments for endocrine disorders.

OR

b) Explain the endocrine system of *Palaemon Malcolmsonii* with suitable diagram.

12 a) Explain how the parathyroid hormone regulates calcium levels in the blood and add a note on its function.

OR

b) What are the two main hormones produced by the posterior lobe of the pituitary gland? Analyze their function in detail.

13 a) How could you justify the hormones produced by the islets of Langerhans regulate blood sugar levels?

OR

b) Assess the effects of hormones secreted from the cortex of adrenal gland on the body.

14 a) Compare the y-organ of crustaceans and the prothoracic glands of insects.

OR

b) Assess the functions of the neuroendocrine system in insects.

15 a) Analyse the structure of the ovary and explain its role in reproduction.

OR

b) Elucidate the hormonal control of parturition and lactation.

Z-Z-Z

END