Total Pages : 8

H-6543

M.Sc. (Semester-IV) Examination, 2022

ZOOLOGY

(Comparative Endocrine Physiology)

Time Allowed : Three Hours

Maximum Marks : 70

Minimum Passing Marks : 28

Note : Attempt questions of all the sections. Instructions are given with the sections.

Section - A

(Objective Type questions)

1. Attempt **any ten** questions. Each question carry **1** mark. [10x1=10]

(A) Fill in the blanks :

(i) Endocrine glands directly under control of nervous system are _____.

(ii) The element necessary in the diet for proper thyroid function is _____.

(iii) The Body's major metabolic hormone is the _____ hormone.

(iv) The two hormones which regulate calcium level in the body are _____ and _____.

(v) When blood glucose levels are too high, the _____ cells of the pancrease release _____ to decrease the levels.

(B) Multiple choice type questions :

(vi) Which of the following hormones stimulates the break down of glycogen in the liver into glucose.

(a) Insulin

(b) Adrenaline

(c) Glucagon

(d) Thyroxine

(vii) Which one of the following glands is also called master gland ?

(a) Pituitary gland

(b) Adrenal gland

(c) Thyroid gland

(d) Ovary

(viii) This is not a function of Insulin :

(a) Decreasing glycogenolysis

(b) Lipogenesis

(c) Gluconeogenesis

(d) Glycogenesis

(ix) Difference between endocrine and exocrine glands is that :

(a) Endocrine glands release hormones, exocrine glands release waste

(b) Endocrine glands are interconnected, exocrine glands are totally independent

(c) Endocrine glands are formed by epithelial tissue, exocrine glands are connective

(d) Endocrine glands are ductless, exocrine glands release secretions into duets or at the surface of the body

(x) Which is the most abundant hormone produced by the anterior pituitary ?

(a) LH

(b) TSH

(c) ACTH

(d) GH

(xi) Which of the following is not an endocrine gland?

(a) Adrenal

(b) Pituitary

(c) Lacrimal

(d) Thyroid

(xii) Action of parathormone in the human body :

(a) decreases blood sodium level

(b) increases blood sodium level

(c) decreases blood calcium level

(d) increases blood calcium level

Section - B

(Very Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **02** marks. (word limit 25-30 words) [5x2=10]

2. Define the following terms :

(i) Endocrinology

(ii) Hormone

(iii) Hyperthyroidism

(iv) Vitellogenesis

(v) Viviparity

(vi) Hyperglycaemia

(vii) Gluconeogenesis

Section - C

(Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **4** marks. (word limit 250 words) [4×5=20]

3. Write short notes on the following :

(i) Uro physis

(ii) Modes of Hormone secretion

(iii) Classes of Hormones

(iv) Phylogeny of Endocrine system

(v) Parathyroid gland

(vi) Evolution of Thyroid gland

(vii) Pancreatic Hormones

Section - D

(Essay Type Questions)

4. Attempt **any three** questions. Each question carries **10** marks. (More than 500 words) [3×10=30]

(i) Give a short account of endocrine control of various physiological mechanisms in nemerteans, annelids molluscs, arthropods (Insects and crustaceans) and echinoderms.[10]

(ii) Explain the evolution of venin-angiotensin system. Add a note on hormonal control of water and electrolyte balance. [5+5=10]

(iii) Briefly describe the process of biosynthesis of thyroid hormone. Add a note on hormonal regulation of calcium and phosphate homeostasis. [5+5=10]

(iv) Discuss the hormonal control of feeding behaviour and G.I. tract functioning. Add a note on pancreatic hormones and their functions. [6+4=10]

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