2018

CBCS

3rd Semester

ZOOLOGY

PAPER—C6T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Animal Physiology :

Controlling and Coordinating System

Answer *all* questions

Group—A

1. Answer any *five* questions : 5×2

(a) Which hormone is secreted by parafollicular cells of the thyroid gland? What hormone produces the opposite physiological effect? 1+1

(b) What is the fate of Hormone–receptor complex ? 2

(c) State the formula for calculating Nernst potential. 2

(d) Differentiate between diaphysis and epiphysis. 2

(e) What do you mean by reflex action ? 2

(f) What is GPCR ? 2

(g) What is cortical reaction ? 2

(h) What is menopause ? 2

Group—B

2. Answer any *four* questions : 4×5

(a) What are the typical functions of a connective tissue ? What is connective tissue proper and name the main cells of it. 3+1+1

(b) Justify—'Hypothalamus is arguably the most essential part of the endocrine system'. 5

(c) Classify hormones—structurally, giving examples Name a chemical messenger capable of acting both as hormone and neurotransmitter. 4+1

(d) Briefly describe different types of cells present in bones. What do you mean by bone remodelling ? 2+3

(e) 'Positive feed-back cycle is responsible for opening of Na^+ channels at the Threshold' — Justify the statement. 5

(f) Explain the role of aldosterone and cortisol to maintain homeostasis. 5

Group—C

3. Answer any *one* question : 1×10

(a) (i) Draw the structure of a typical neuromuscular junction. List the main steps of activation of smooth muscle by Ca^{2+}. 3+3

(ii) Differentiate between isometric and isotonic contraction. 2

(iii) Name the hormones released from posterior pituitary gland. 2

(b) (i) Discuss the signal transduction pathways of steroidal hormones. Comment on second messenger system. 4+2

(ii) Discuss the endocrine control of ovulation. 4

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