3 (Sem–3/CBCS) ZOO HC 2

2022

ZOOLOGY

(Honours)

Paper : ZOO–HC–3026

(Animal Physiology : Controlling and Coordinating Systems)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer as directed : ***(any seven)*** 1×7=7

   (a) Keratinized dead layer of skin is made of

   (i) Stratified Squamous

   (ii) Simple Cuboidal

   (iii) Simple Columnar

   (iv) Stratified Columnar

   (Choose the correct answer)

(b) The junction of two neurons is called ..... . *(Fill in the blank)*

(c) What is *Ptylin*?

(d) Melanocyte stimulating hormone (MSH) is secreted by

(i) Adenohypophysis

(ii) Pars intermedia of pituitary

(iii) Adrenal gland

(iv) Thyroid gland

(Choose the correct answer)

(e) Cortisol is a steroid hormone.

(Write True **or** *False)*

(f) Collagen fibres of connective tissue are

(i) White

(ii) Yellow

(iii) Colourless

(iv) Red *(Choose the correct answer)*

(g) Reflex action is controlled by spinal cord. *(Write True **or** False)*

(h) The sarcomere is the area between two

(i) Z-bands

(ii) H-bands

(iii) A-bands

(iv) M-line

(Choose the correct answer)

(i) Hormone relaxin is produced by ..... . *(Fill in the blank)*

(j) Define motor unit.

(k) What are sarcostyles ?

(l) Ligaments and tendons are

(i) Connective tissue

(ii) Skeletal tissue

(iii) Muscular tissue

(iv) Fibrous connective tissue

(Choose the correct answer)

2. Answer ***any four*** from the following questions : 2×4=8

(a) Define muscle twitch.

(b) What is synapse? What are the different types of synapse? 1+1=2

(c) Name the different bone cells.

(d) What are different chemical classes of hormones?

(e) What is osteon?

(f) Write a brief note on hyaline cartilage.

(g) Mention the anterior pituitary hormones.

(h) What is Neuroglia? Mention the different types of neuroglia cells. 1+1=2

3. Answer the following questions : ***(any three)*** 5×3=15

(a) Describe the structure of fibrous cartilage with a neat labelled diagram. 4+1=5

(b) Write a short note on physiological function of posterior pituitary.

(c) Describe the methods of contraception in male.

(d) What is osteon ? Describe the structure of compact bone with suitable diagram. 1+4=5

(e) Give an account on histological structure and secretion of ovary.

(f) What is estrous cycle ? Discuss briefly the process of estrous cycle. 1+4=5

(g) Describe briefly the ultrastructure of a muscle fibre.

(h) Enumerate briefly the physiology of hearing and vision.

4. Answer ***any three*** from the following questions : 10×3=30

(a) Discuss the classification of epithelial tissues with suitable diagram. Give a brief account on functions of epithelial tissues. 7+3=10

(b) Describe the histological structure of adrenal gland with neat labelled diagram.

(c) Define hypothalamo-hypophysial axis. Discuss the role of hypothalamic factors in the regulation of the endocrine function of the anterior pituitary. 2+8=10

(d) What is Volkmann's canal? Differentiate between compact bone and spongy bone. 2+8=10

(e) Define action potential. Discuss the mechanism of conduction of nerve impulse. 2+8=10

(f) Explain the role of corpus luteum and placenta in the reproduction.

(g) What is Neuron? Write about the structure and function of a neuron. 2+8=10

(h) Give an account of the hormonal actions at cellular level.
