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**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)*

*Contd.*

(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 sarcolemma?

(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 :  $2 \times 4 = 8$

- (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)**  $5 \times 3 = 15$

- (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.

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