

2 0 2 3

ZOOLOGY

Paper : ZOOHC3066

**(Physiology : Controlling and
Coordinating System)**

(Theory)

Full Marks : 60

Pass Marks : 24

Time : 3 hours

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

- 1. Choose the correct option from the following
(any five) :** **1×5=5**

(a) Smooth muscle is found in

(i) circulatory system

(ii) reproductive system

(iii) digestive system

(iv) excretory system

(2)

- (b) Elastic cartilage is found in
- (i) glenoidal labrum of the shoulder joint
 - (ii) acetabular labrum of the hip joint
 - (iii) auricle or pinna
 - (iv) symphysis

- (c) The organ in ear that helps to maintain equilibrium is

- (i) cochlea
- (ii) semicircular canals
- (iii) organ of Corti
- (iv) ear ossicles

- (d) A depolarized membrane is

- (i) more permeable to Na^+
- (ii) less permeable to K^+
- (iii) more permeable to both Na^+ and K^+
- (iv) less permeable to both Na^+ and K^+

(3)

- (e) Antidiuretic hormone is produced from

- (i) kidney
- (ii) hypothalamus
- (iii) anterior pituitary
- (iv) posterior pituitary

- (f) The excess nutrients, not used immediately are converted in fat and stored in

- (i) areolar tissue
- (ii) adipose tissue
- (iii) dense regular connective tissue
- (iv) dense irregular connective tissue

- (g) _____ connects muscles to bones.

- (i) Tendon
- (ii) Ligament
- (iii) Fibre
- (iv) Tissue

(4)

(h) Formation of yolk is known as

- (i) oogenesis
- (ii) spermatogenesis
- (iii) vitellogenesis
- (iv) spermeogenesis

(i) Haversian canal is found in

- (i) bone
- (ii) cartilage
- (iii) blood
- (iv) heart

(j) Iodine deficiency can cause

- (i) thyroid cancer
- (ii) goitre
- (iii) anxiety
- (iv) solitary thyroid nodules

24KB/123

(Continued)

(5)

2. Answer any *five* of the following questions :

2×5=10

- (a) What are dendrites? Where are they found?
- (b) Write any two functions of haemoglobin.
- (c) Why does a muscle get fatigued?
- (d) Mention any two contraceptive measures in male and female.
- (e) Give examples of second messengers.
- (f) What is ovulation?
- (g) What is 'Z'-line?

3. Answer any *five* of the following questions :

5×5=25

- (a) Write the names of different types of muscles. Give three important properties of muscle.
- (b) Where does pineal gland is located? Name the hormone secreted by the pineal gland and write the role of hormone.

24KB/123

(Turn Over)

(6)

- (c) Write the differences between hormones and enzymes.
- (d) Give a brief account of mechanism of synaptic transmission.
- (e) What is a joint? Write its type with examples.
- (f) Explain briefly frequency summation and tetanization.
- (g) Write the functions of estrogen.
- (h) Write in detail about seminiferous tubule with labelled diagram. $3+2=5$
- (i) Write on the cellular components of blood.

4. Answer any *two* of the following questions :
 $10 \times 2 = 20$

- (a) Discuss the structure of pituitary gland. Explain the mechanism of action of pituitary hormones.
- (b) Give a well-labelled diagram of the eye. Explain the phenomenon for the formation of image on retina.

(7)

- (c) What are the different types of bone? How the growth and development of long bones takes place? Explain.
- (d) What is action potential? Explain propagation of nerve impulse through non-myelinated nerve fibre.
