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63/1 (SEM-4) CC8/ZOOHC4086

2025

ZOOLOGY

Paper : ZOOHC4086

(Comparative Anatomy of Vertebrates)

Full Marks : 60

Pass Marks : 24

Time : Three hours

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

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

(a) The outermost covering of animals is—

(i) Cortex

(ii) Scales

(iii) Hairs

(iv) Integument

(b) In presence of Sunlight Vitamin D is synthesized in mammalian skin from—

- (i) Tears
- (ii) Sebum
- (iii) Earwax
- (iv) Sweat

(c) Spinal cord consists of ____ bones.

- (i) 25
- (ii) 33
- (iii) 28
- (iv) 45

(d) In living amphibians exoskeleton is—

- (i) Hairy
- (ii) Horny
- (iii) Scaly
- (iv) Absent

(e) The primary function of the digestive system is—

- (i) regulating body temperature
- (ii) excreting waste products
- (iii) break down food and absorbing nutrients
- (iv) making sensation

(f) Which of the following structures prevents food from entering the trachea?

- (i) Epiglottis
- (ii) Pharynx
- (iii) Hind gut
- (iv) Soft plate

(g) The term 'respiration' refers to—

- (i) Gas exchange within the lungs
- (ii) Oxygen utilization within the cells
- (iii) Diffusion of respiratory gases
- (iv) None of the above

(h) The smallest arteries are connected to smallest veins by—

- (i) Muscles
- (ii) Arteries
- (iii) Venules
- (iv) Capillaries

(i) The pigment resulting from the destruction of haemoglobin that gives urine a pale yellow colour is—

- (i) Urochrome
- (ii) Cytochrome
- (iii) Melanin
- (iv) Anthocyanin

(j) Which of the following is the main thinking part of human brain?

- (i) Hind brain
- (ii) Cerebrum
- (iii) Cerebellum
- (iv) Midbrain

2. Answer the following questions in brief:
(**any five**) 2×5=10

- (a) What is blood pressure? Write the range of normal systolic blood pressure in man. 1+1=2
- (b) Name *two* common defects of eye.
- (c) Write the name of *two* major parts of a vertebra.
- (d) What do you mean by vestigial organ? Give an example of vestigial organ of human. 1+1=2
- (e) Define digestion. Write the primary function of large intestine. 1+1=2
- (f) Distinguish between sensory neuron and motor neuron.
- (g) What do you mean by urinogenital system? Name the disease that indicates glucose in urine. 1+1=2

3. Answer the following questions : (**any five**)
5×5=25

- (a) Compare the structural differences between the skin of reptiles and the skin of birds.

- (b) Distinguish the differences between mechanoreceptors and thermoreceptors.
- (c) Write briefly about the accessory respiratory organs of vertebrates.
- (d) Mention the primary components of the integumentary system in vertebrates.
- (e) Give a general account of dentition in human beings.
- (f) Compare jaw suspensorium in bony fish to that in reptiles.
- (g) How does the spinal cord contribute to reflex actions of our body?
- (h) Write an account of different organs of urinary system in mammalian vertebrates.
- (i) Describe the histological structure of heart of mammal.

4. Answer the following questions : **(any two)**
10×2=20

- (a) Describe a comparative account of hearts of vertebrates.

- (b) Depict a comparative account of appendicular skeleton in vertebrates.
 - (c) Describe the structure of blood cells with its primary functions in mammals.
 - (d) Give a brief account of auditory receptors in man.
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