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3 (Sem-4/CBCS) ZOO HC 1

2022

**ZOOLOGY**

(Honours)

Paper : ZOO-HC-4016

**(Comparative Anatomy of Vertebrates)**

Full Marks : 60

Time : Three hours

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

1. Answer **any seven** of the following :

1×7=7

(a) The layer that separates the skin from deeper tissues is

(i) cuticle

(ii) epidermis

(iii) dermis

(iv) hypodermis

Contd.

- (b) The connective tissue beneath the epidermis is known as
- (i) cuticle
  - (ii) dermis
  - (iii) hypodermis
  - (iv) epidermis
- (c) The structure that is a part of the skeletal system but are not bones is called
- (i) teeth
  - (ii) hairs
  - (iii) nails
  - (iv) hooves
- (d) The total number of bones in an adult human is
- (i) 208
  - (ii) 206
  - (iii) 350
  - (iv) 260

- (e) Saliva helps in digestion of
- (i) starch
  - (ii) fiber
  - (iii) proteins
  - (iv) fats
- (f) The longest organ of digestive system in human is
- (i) pancreatic duct
  - (ii) small intestine
  - (iii) large intestine
  - (iv) esophagus
- (g) The tiny air sacs present in human lungs are called
- (i) alveoli
  - (ii) bronchus
  - (iii) bronchioles
  - (iv) All of the above

- (h) Pulmonary vein carries
- (i) impure blood from lungs
  - (ii) impure blood from heart
  - (iii) pure blood from lungs
  - (iv) pure blood from heart
- (i) The nerves that transmit the impulse to the central nervous system is called
- (i) sensory neuron
  - (ii) motor neuron
  - (iii) sympathetic system
  - (iv) parasympathetic system
- (j) In human eye, the image of an object is found in
- (i) cornea
  - (ii) iris
  - (iii) pupil
  - (iv) retina

2. Write short notes of the following :  
**(any four)** 2×4=8

- (a) Structure of Weberian ossicles
- (b) Meckel's cartilage in tetrapods
- (c) Taste buds
- (d) Gill arch
- (e) Alveoli
- (f) Ductus caroticus
- (g) Pacinian corpuscle
- (h) Urinogenital duct

3. Answer **any three** of the following :  
5×3=15

- (a) Describe the structure of avian epidermis.
- (b) Write briefly the structure of axial skeleton.
- (c) Describe different types of teeth found in vertebrates.
- (d) Write a note on the structure and functions of swim bladder.

- (e) Give an account of the ultrastructure of a nephron.
- (f) Describe briefly the components of sensory organ.
- (g) Afferent branchial arteries in bony fishes

4. Answer **any three** of the following :

10×3=30

- (a) Describe the structure and functions of mammalian skin. 7+3=10
- (b) Give an account of jaw suspension in vertebrates.
- (c) Give a comparative account of digestive system in birds and mammals with diagram. 5+5=10
- (d) Give the comparative study of heart in reptiles and birds with diagram. 5+5=10
- (e) Describe briefly about the urogenital system of mammals.

(f) Give a detailed account of mammalian brain with diagram. Mention its advancements over reptilian brain.

7+3=10

(g) Give a brief account of visual receptors in man.

(h) What is accessory respiratory organ? Describe the structure and functions of accessory respiratory organs in fishes.

2+(5+3)=10

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