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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