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

2. Write short notes of the following :
(any four) $2 \times 4 = 8$

- Structure of Weberian ossicles
- Meckel's cartilage in tetrapods
- Taste buds
- Gill arch
- Alveoli
- Ductus caroticus
- Pacinian corpuscle
- Urinogenital duct

3. Answer **any three** of the following :
 $5 \times 3 = 15$

- Describe the structure of avian epidermis.
- Write briefly the structure of axial skeleton.
- Describe different types of teeth found in vertebrates.
- 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