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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.

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(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

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- (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.

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- (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.

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- (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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