Total number of printed pages–4

3 (Sem–4/CBCS) ZOO HC 1

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ZOOLOGY

(Honours Core)

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. Choose the correct answer : 1×7=7

   (a) Hairs and nails are composed mainly of

   (i) collagen

   (ii) keratin

   (iii) adipose tissue

   (iv) cartilage

   (b) Foramen of Panizza is seen in

   (i) crocodile

   (ii) frog

Contd.

(iii) fish

(iv) cow

(c) Wolffian body is also known as

(i) pronephros

(ii) mesonephros

(iii) archinephros

(iv) metanephros

(d) The fifth cranial nerve is

(i) oculomotor nerve

(ii) trochlear nerve

(iii) abducens nerve

(iv) trigeminal nerve

(e) Organ of Corti is present within

(i) scala media

(ii) scala vestibuli

(iii) scala tympani

(iv) None of the above

(f) Pain receptors are also called as

(i) mechanoreceptor

(ii) Merkel's disc

(iii) vomeronasal organ

(iv) nociceptors

(g) Teeth with well-developed roots set in bony sockets in the jaw are called

(i) acrodont
(ii) thecodont
(iii) pleurodont
(iv) bunodont

2. Write short notes on the following : 2×4=8

(a) Uropygial gland of birds

(b) Adrenergic and cholinergic receptors

(c) Stomach of ruminants

(d) Role of integument in thermoregulation

3. Answer the following questions : ***(any three)*** 5×3=15

(a) Briefly explain the major components of axial skeleton in mammals.

(b) Write a note on the accessory organs of the digestive system.

(c) What do you mean by external and internal respiration? Elaborate the structural features of internal or true gills found in adult fishes. 1+4=5

(d) Write a note on the structural and functional aspects of rods and cones found in the retina of human eye. 3+2=5

(e) Briefly explain the functions of sympathetic and parasympathetic nervous systems. 3+2=5

4. (a) What are visceral arches? Give a comparative account of the visceral arches in vertebrates. 2+8=10

Or

(b) What is the hilum of kidney in mammals? Discuss the comparative structure of kidney in vertebrates with neat labelled diagrams. 2+8=10

5. (a) Give a comparative account on the integument of reptiles, birds and mammals with suitable diagrams. 10

Or

(b) Write a note on the evolutionary changes in the pattern of heart in vertebrates with appropriate diagrams.

6. (a) What is corpus callosum? Describe the structural features of the brain of a reptile and compare it with that of a mammal. 2+8=10

Or

(b) What are air sacs? Write a note on the types of air sacs. Mention its functions. 2+4+4=10