

P.G. 1st Semester - 2016

ZOOLOGY

(CBCS)

(Chordates : Structure and Functions)

Paper : MZOOCCT102

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any eight of the following: 1×8=8
 - a) What is pillar cell?
 - b) What is ligamentum arteriosum?
 - c) What is foramen ovale?
 - d) What is ghemus?
 - e) What is endostyle?
 - f) What is Wolffian duct?
 - g) Define metakinesis.
 - h) What are the components of pallium?
 - i) What do you mean by allometric growth?

- j) State the fate of Meckel's cartilage in mammals.
- k) Which one of the following structure is primary nucleus for cranial nerve VII-XII in mammals?
 - (i) Cerebellum (ii) Cerebrum (iii) Medulla oblongata (iv) Pons.
- l) What is the fate of palatoquadrate in mammals?

2. Answer any six of the following: 2×6=12
 - a) Discuss the composite theory of jaw origin.
 - b) What is associated receptor? Give example of such receptors.
 - c) Comment on the process of encephalization in primate.
 - d) Comment on the evolutionary significance of endostylar cells associated with iodine binding in Branchiostoma sp.
 - e) Write short note on Notochord.
 - f) What is metanephric kidney?
 - g) Differentiate Paleopulmonic lung and neopulmonic lung.

h) What is secondary gill lamella?

3. Answer any four of the following: $5 \times 4 = 20$

a) What is Ventilation-Perfusion ratio? Mention its significance. $2+3$

b) Discuss the phenomenon of closing of foramen ovale during the birth of a Placental mammal. 5

c) Discuss the four bar kinetics machinery of reptilian jaw in relation to feeding. What is streptostyly? $4+1$

d) Schematically describe evolutionary modification of telencephalon from basic lamprey like ancestor. 5

e) Discuss the jaw kinetics in bird with reference to rhynekinesis. $3+2$

f) What are general sensory organs? Discuss the mechanism of perception of stimuli from these sense organs. $2+3$

g) What are the different types of lingual papilla in human tongue? Briefly discuss the molecular mechanism of olfactory perception. $3+2$
