

2018

ZOOLOGY

(Major)

Paper : 3.1

(Comparative Anatomy and Histology)

Full Marks : 60

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. State True or False (any two) : $1 \times 2 = 2$
- (a) Axon carries impulses away from the cell body.
 - (b) Integrated nucleus is found in RBC.
 - (c) Thyroid gland developed from the ectodermal cell.
2. Fill in the blanks (any three) : $1 \times 3 = 3$
- (a) Stratum corneum is made up of _____ cells.
 - (b) The internal nares open at _____.
 - (c) The space where heart of mammal is located known as _____.
 - (d) The gills of the amphibia are certainly _____ in origin.

3. Answer the following questions : $1 \times 2 = 2$

- (a) What is the function of heparin?
- (b) Name the only integumentary gland found in birds.

4. Answer/Write notes on the following (any four) : $2 \times 4 = 8$

- (a) Procedure of double staining
- (b) Accessory respiratory organs in fishes
- (c) Metachromatic dye with examples
- (d) Write the difference between bone and cartilage.
- (e) Draw a neat labelled diagram of mammalian heart.

5. Answer the following questions (any three) : $5 \times 3 = 15$

- (a) What are the different types of horn found in mammals? Elaborate your answer with appropriate examples. $2 + 3 = 5$
- (b) Write a brief note on lymph with its function. 5
- (c) Write the basic principles of fixation and its biological importance. 5
- (d) Write a comparative account of thyroid gland in fish and reptiles. 5
- (e) Distinguish between mesonephors kidney and metanephors kidney. 5

6. Answer the following questions (any *three*) :

10×3=30

- (a) Write briefly about the different types and functions of connective tissue with proper diagrams. 10
- (b) What is aortic arch? Discuss the modification of aortic arches from the origin of different vertebrates group. 2+8=10
- (c) Give a comparative account of organs of hearing and balancing in vertebrate groups. 10
- (d) What are dyes? Write the difference between acid and basic dyes. Write the chemical composition of dyes and their properties. 2+4+4=10
- (e) Write the principles and procedure of histological staining of carbohydrate and proteins. 5+5=10
- (f) Write about the different types of muscular tissue with suitable diagrams. 10
