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*) : 1×2=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*) : 1×3=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 : 1×2=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*) : 2×4=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*) : 5×3=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

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