

Total No. of printed pages = 4

3 (Sem 3) ZOO M1

2015

ZOOLOGY

(Major)

Paper : 3.1

Full Marks – 60

Time – Three hours

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

1. Fill in the blanks (any *three*) : 1×3=3

- (a) Skeletal muscles are enclosed in a sheath of connective tissue called _____.
- (b) Columnar epithelium with goblet cell is called _____ epithelium.
- (c) The mature bone cells are called _____.
- (d) Nervous tissue transmit messages in the form of _____.

[Turn over

2. Write true or false : $1 \times 2 = 2$

- (a) Lymph is responsible for the removal of interstitial fluid from tissues.
- (b) Perichondrium is found around hyaline cartilage.

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

- (a) Which connective tissue is used to attach the skin to the underlying tissue ?
- (b) Name the tissue that helps in defending the body against infections and the spread of tumors.

4. Answer any *four* from the following questions :

$2 \times 4 = 8$

- (a) What are Filoplumes ? What it is also known as ?
- (b) Who have developed Feulgen technique ? What is its use ?
- (c) Name the different types of dermal scales that covers the body of fishes.
- (d) Why pronephros are known as head kidney and in which animal it is still a functional kidney ?

(e) Mention two functions of dense fibrous tissue.

(f) Draw a neat labelled diagram of the mammalian kidney.

5. Answer any *three* from the following questions :

5×3=15

(a) Give a comparative account of the skin in Amphibia and Reptiles. 5

(b) Define staining. Describe the different types of organic stains with examples. 1+4=5

(c) What is immunohistochemistry ? Discuss the various techniques used in immunohistochemical investigation. 2+3=5

(d) Describe the structure and functions of nervous tissue. 5

(e) Define metachromatic dyes. Write the differences between mordants and metachromatic dyes with examples. 1+4=5

6. Answer any *three* from the following questions :

10×3=30

(a) Give a comparative account of the thyroid gland in reptiles and mammals. How it differs from birds ? 8+2=10

(b) Write a brief account about the organs of hearing and balancing in birds and mammals with suitable diagrams. $5+5=10$

(c) Describe the structure and functions of skeletal muscle with suitable diagram. $6+2+2=10$

(d) Give a comparative account of the heart in vertebrate series. 10

(e) What is bone? Describe in detail the histological structure of compact and spongy bone.

$1+5+4=10$