

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*) : $1 \times 3 = 3$

(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 ?

25/3 (Sem 3) ZOO M1 (2)

(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 :

$5 \times 3 = 15$

(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 :

$10 \times 3 = 30$

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

25/3 (Sem 3) ZOO M1 (3)

(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.

$1+5+4=10$