

2017

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. Fill in the blanks (any three) :  $1 \times 3 = 3$

(a) Blood is fluid \_\_\_\_\_ tissue.

(b) Lining of colon made up of \_\_\_\_\_  
epithelium.

(c) Toluidine blue is an example of \_\_\_\_\_  
dye.

(d) The cell body of neuron is called \_\_\_\_\_.

2. Write True or False (any two) :  $1 \times 2 = 2$

(a) Smooth muscles are also known as  
striated muscles.

(b) The integument acts as an organ of  
excretion.

(c) Acetoorcein is a chromosomal stain.

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

- (a) What kinds of muscles constitute the heart?
- (b) Name the hearing part of the inner ear of human.

4. Write notes on any *four* from the following :  $2 \times 4 = 8$

- (a) Difference between bones and cartilage
- (b) Hypothyroidism
- (c) Gram staining
- (d) Mode of respiration in amphibia
- (e) Mordant
- (f) Neuron

5. Answer/Write on any *three* from the following :  $5 \times 3 = 15$

- (a) Comparative account of brain in fish and amphibia
- (b) Draw a labelled sketch of mammalian kidney.
- (c) Respiratory organs of fishes
- (d) Principles and procedures of histological staining in nucleic acid
- (e) Different types of scales in fishes

6. Answer any *three* from the following questions : 10×3=30

- (a) Write about different types of epithelial tissue with suitable diagrams.
- (b) Give a comparative account of thyroid gland in reptiles and mammals.
- (c) Give a brief account of embryonic development and organization of kidney in vertebrate series.
- (d) Give a comparative account of integument in vertebrates.
- (e) Write the principles and procedures of silver staining method for detecting protein in polyacrylamide gels.
- (f) Draw a labelled diagram of brain in mammal and describe its advancement over reptilian brain.

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