

2016

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) : 1×3=3

- (a) Tendons are rich in _____ fibres.
- (b) The accessory respiratory organ of *Heteropneustes fossilis* is called _____.
- (c) The urinary bladder in man is lined by _____ epithelium.
- (d) The most common fixative used in electron microscopy is _____.

2. State True or False : 1×2=2

- (a) In caecilian, the left lung is rudimentary.
- (b) Nissl granules are found in APUD cells.

3. Answer the following questions : 1×2=2

- (a) How many chambered heart is found in gharial?
- (b) Name a dye which is amphoteric but behaves as an acid dye when applied to tissue.

4. Answer any *four* from the following questions : 2×4=8

- (a) What is mordant? Give an example of mordant.
- (b) Describe the structure of thyroid gland in reptile.
- (c) In what respect the brain of Osteichthyes is more specialised than that of Chondrichthyes?
- (d) State the functions of adipose tissue.
- (e) Define synapse. What are the different types of synapse?
- (f) Briefly state how tissues are maintained.

5. Answer any *three* from the following questions : 5×3=15

- (a) What are the different types of horn found in mammals? Describe each of them with example. 2+3=5

- (b) Distinguish between mesonephros kidney and metanephros kidney. 5
- (c) Describe the structure of hyaline cartilage with a neat labelled diagram. 4+1=5
- (d) Write the principles of fixation. 5
- (e) Give a comparative account of internal ear (membranous labyrinth) in vertebrate series. 5
6. Answer any *three* from the following questions : 10×3=30
- (a) Give a comparative account of the structure of skin in vertebrates. 10
- (b) Write a comparative account of brain of reptile and mammal. 10
- (c) What is aortic arch? Discuss the modification of aortic arches from the ancestral type in different vertebrate groups. 2+8=10
- (d) Why is blood called connective tissue? Describe the structure of blood. How does blood differ from lymph? 2+6+2=10
- (e) What is periodic acid-schiff (PAS) reaction? Write the procedure of staining glycogen by PAS reaction. 3+7=10
