

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) : $1 \times 3 = 3$
- (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 : $1 \times 2 = 2$
- (a) In caecilian, the left lung is rudimentary.
 - (b) Nissl granules are found in APUD cells.

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

- (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 : $2 \times 4 = 8$

- (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 : $5 \times 3 = 15$

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

(b) Distinguish between kidney and metanephros.

(c) Describe the structure of cartilage with a diagram.

(d) Write the principle of osmosis.

(e) Give a comparison of the ear (membrane) in vertebrate series.

6. Answer any three questions :

(a) Give a comparison of the structure of skin in mammal and reptile.

(b) Write a comparison of the structure of reptile and mammal.

(c) What is aortic modification of a vertebrate? Describe the modification of a vertebrate in ancestral type in different groups.

(d) Why is blood called as connective tissue? Describe the structure of blood. How does blood differ from connective tissue?

(e) What is periodic reaction? Write the reaction. Write the staining glycogen.

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