2 0 1 4

ZOOLOGY

(Major)

Paper : 3.1

Full Marks : 60

Time : 2½ hours

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

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

    (a) —— are the small tunnels seen in bone.

    (b) —— is the main protein of connective
    tissue in animals.

    (c) The cell body of a neuron is called ——.

    (d) —— forms the brush border.

2. Write True or False : 1×2=2

    (a) Skeletal muscle creates heat.

    (b) The yellow colouration sometimes
    associated with adult fat is due to the
    presence of numerous lipid droplets.

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

    (a) What is the function of adipose tissue?

    (b) Which type of cartilage forms the skeleton of the foetus?

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

    (a) What is mordant? Give an example.

    (b) How many types of cartilage are there? Name them.

    (c) What are the functions of epithelium?

    (d) Draw a neat labelled diagram of a mammalian heart.

    (e) What are the four types of tissue found in the body of a mammal?

    (f) Name different modes of respiration in amphibia.

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

    (a) Write the principle and procedure of histological staining of proteins. 5

    (b) Give a comparative account of the organs of hearing and balancing in fish and amphibia. 5

(c) Write a brief note on lymph with its functions. 5

(d) Describe the basic principle of fixation with its biological importance. 5

(e) How are dyes classified? Write the chemical composition of acidic dyes and their properties. 2+3=5

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

(a) Give a brief account of embryonic development of kidney and organization of kidney in vertebrate.

(b) Explain the evolutionary trends in the structure of aortic arches of vertebrates.

(c) Describe the composition and function of blood.

(d) Give a comparative account of the brain in vertebrates.

(e) Write briefly about the different types of epithelial tissue with proper diagrams.

★ ★ ★