This question paper contains 4 printed pages.

3865–A *Your Roll No.* .....

B.Sc. (Prog.) / II **IS**

BIO–201— BIOLOGY OF ANIMALS: FORM, STRUCTURE AND FUNCTION

(O.C.— Admissions of 2007 and before)

Time : 3 hours ***Maximum Marks*** : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Answer Section A and Section B on separate answer-books.

SECTION A

*Answer **three questions including** Q. No. 1 **which is compulsory.***

1. (*a*) Distinguish between the following:

   (*i*) Homologous and Analogous Organs

   (*ii*) Water Canal System and Water Vascular System

   (*iii*) Holometabolous and Hemimetabolous insects. 1×3=3

   (*b*) Define the following terms:

   (*i*) Osmoregulation

P. T. O.

(*ii*) Haemocoel

(*iii*) Ommatidium. 1×3=3

(*c*) Fill in the blanks:

(*i*) Book lungs are present in ..... .

(*ii*) The alteration of sexual and asexual generation is called ..... .

(*iii*) The first few segments of abdominal appendages in Prawn are referred to as ..... . 1×3=3

(*d*) Classify the following upto Classes/Orders (any *two*):

(*i*) Hydra

(*ii*) Wall Lizard

(*iii*) Pila. 1×2=2

2. (*a*) Discuss the parasitic adaptations in Pseudocoelomates. 6

(*b*) Give an illustrative account of Locomotion in Protista. 6

3. (*a*) Define Polymorphism. Explain with suitable examples. 8

(*b*) Discuss 'Syconoid' type of Canal system in Porifera. 4

4. Write short notes on (any *three*):

(*i*) Respiration in Amphibians

(*ii*) Water vascular system in Starfish

(*iii*) Integument in Mammals.

(*iv*) Respiration in Molluscs. 4×3=12

Section B

Answer three questions including Q. No. 1 which is compulsory.

1. (*a*) Distinguish between:

(*i*) Rennin and Renin

(*ii*) Bone and Cartilage

(*iii*) Arteries and Veins

(*iv*) Striated and Unstriated Muscle. 2×4=8

(*b*) State the significance of:

(*i*) Glucagon

(*ii*) Chyle

(*iii*) Haemoglobin

(*iv*) Thyroxine. 1×4=4

(*c*) Fill in the blanks:

(*i*) The ability of the white blood cells to crawl through the capillaries and reach an infected or injured tissue is ..... .

(*ii*) Platelets are formed when large cells called ..... break into fragments.

(*iii*) ..... is the gland which has both exocrine and endocrine functions.

(*iv*) A substance that accumulates in a fatigued muscle is ..... . 1×4=4

2. Give the structure of a 'Nephron'. Explain how concentrated urine is formed by the kidney. 12

3. (*a*) Discuss the biochemical events occurring during muscle contraction. 6

(*b*) Describe the digestion of carbohydrates and proteins. 6

4. Write short notes on any *three* of the following:

(*i*) Thyroid

(*ii*) Menstruation

(*iii*) Oxygen Dissociation Curve

(*iv*) Action Potential. 4×3=12