

Exam.Code:0004  
Sub. Code: 0356

2071  
B.A./B.Sc. (General) Fourth Semester  
Zoology  
Paper – II: Biochemistry and Physiology - II (ZOO-402)

Time allowed: 3 Hours

Max. Marks: 36

**NOTE:** Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Briefly explain the following:-

- a) Ketosis
- b) Carnitine shuttle system
- c) Transamination
- d) Vasa recta
- e) Neurotransmitter
- f) Myosin
- g) Membrane potential
- h) Thymus

(8x1)

**UNIT - I**

II. Discuss the following:-

- a) Significance of HMP pathway
- b) Glycogenolysis

(2x3½)

III. a) Explain the mechanism of oxidative phosphorylation

- b) Enumerate the differences between the synthesis of saturated and unsaturated fatty acids.

(2x3½)

**UNIT - II**

IV. Explain urea cycle in detail with well labelled diagram highlighting the rate limiting steps.

(7)

V. Briefly explain the following:-

- a) Non-oxidative deamination
- b) Hydrolysis of protein

(2x3½)

P.T.O.

(2)

**UNIT - III**

- VI. Write short note on following:-
- a) Counter current mechanism
  - b) Osmoregulation (4,3)
- VII. a) Explain the sliding filament theory of muscle contraction in detail.
- b) Draw a neat and well labelled diagram of sarcomere. (4½, 2½)

**UNIT - IV**

- VIII. Write a note on the following:-
- a) Classify neuron on the basis of their structure
  - b) Salutory propagation of nerve impulse (2x3½)
- IX. Discuss the hormones secreted by the alimentary canal. Also describe their function. (7)

x-x-x