

ZOOLOGY (Paper I)

Time Allowed : Three Hours

Maximum Marks : 300

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

SECTION 'A'

1. Write concise account of any THREE of the following in about 200 words each: **20×3=60**
- (a) Characteristics of Rhynchocephalia and Crocodila.
 - (b) Illustrated account of the types of kidneys of vertebrates.
 - (c) Reproduction in protozoa.
 - (d) Discuss the morphological, anatomical & physiological flight adaptations in bird.
2. Describe the diagnostic characteristics of class mammalia. Classify it upto sub-classes giving the contrasting features of each with suitable examples. **60**
3. Give a detailed account of Polymorphism in Coelenterates. Add a note on Metagenesis. **60**
4. Describe the structure and adrenal cortex and medulla. Mention the hormones secreted by them and their regulatory influences. Add a note on the mechanism(s) of control of cortical and medullary hormones. **60**

SECTION 'B'

5. Write brief account of any THREE of the following in about 200 words each: **20×3=60**
- (a) Discuss Carbon Cycle. Add a note on the greenhouse effect.
 - (b) Describe Pavlov's experiments on conditioning and learning in animals.
 - (c) Discuss the vector, pathogen, treatment and prevention of Malaria.
 - (d) How an experiment is designed? Discuss Null Hypothesis.
6. Discuss the strategies adopted for conservation of natural resources and biological diversity in India. **60**
7. What are the various species of silkworm? Describe the life history of mulberry silkworm. Add a note on the requirements for sericulture industry. **60**
8. (a) what is Lambert-Beer's Law? Discuss the construction of spectrophotometer. Add a note on the applications of UV-visible spectrophotometry in biological studies. **30**
- (b) Differentiate between correlation and regression. Discuss the methods used to study correlation. Add a note on the coefficient of correlation. **30**