

Zoology

Paper-II

Time Allowed: Three hours

Maximum Marks: 300

Candidates should answer question Nos. **1** and **5** which are compulsory and other **three** of the remaining, questions, selecting at least **one** from each section..

Illustrate your answers with suitable diagrams wherever necessary.

SECTION-A

1. Write brief accounts on any **three** of the following in about 200 words each. 20 × 3 = 60
 - (a) Golgi apparatus and Exocytosis of the materials.
 - (b) Multiple Alleles and ABO blood types.
 - (c) Distribution of animals and continental drift.
 - (d) Cladistics and phylogeny.
2. Write an essay on 'Chemical composition of Plasma membrane', mode of transport across it with special reference to 'Pumps'. 20 + 20 + 20 = 60
3. (a) Pedigree Analysis (200 words)- Discuss 20
(b) Congenital diseases in man - Elucidate 40
4. Write Explanatory notes on any **three** of the following: 20 × 3 = 60
 - (a) Evolution of man
 - (b) Isolation and Speciation
 - (c) Change in gene frequency & Micro evolution
 - (d) Basic types of mimicry.

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SECTION-B

5. Write brief accounts on any **three** of the following in about 200 words each. $20 \times 3 = 60$
- (a) Structure and function of proteins.
 - (b) Transport of Oxygen and Carbon dioxide.
 - (c) Law of Development and Evo-devo concept.
 - (d) Anatomy and functions of the Liver.
6. (a) Discuss the thermoseustivity of the Hypothalamus and Thermo regulation in mammals. $10 + 20 = 30$
- (b) Discuss Antidiuretic Hormones and Osmo-regulation. $10 + 20 = 30$
7. (a) Write a note on placentation in mammals. 30
- (b) Write a note on fate maps of Gastrula in frog. 30
8. Write explanatory notes on any **three** of the following. $20 \times 3 = 60$
- (a) Energy flow through living systems.
 - (b) Basic classification of Hormones.
 - (c) Adult and Fetal Haemoglobin
 - (d) Formation of urine by the nephrous of kidneys.

Zoology

(Main Examination)

Paper-I

Time Allowed: Three hours

Maximum Marks: 300

Candidates should answer question Nos. 1 and 5 which are compulsory and other **three** of the remaining questions, selecting at least **one** from each section.

Illustrate your answer with suitable diagrams wherever necessary.

SECTION-A

1. Write brief accounts on any **three** of the following in about 200 words each.
 $20 \times 3 = 60$
 - (a) Life history of Plasmodium.
 - (b) Tube feet and water vascular system in Echinoderms.
 - (c) Dentition in mammals.
 - (d) Life history of 'Herdmania'.
2. (a) Write a brief note on salient features and affinities of onychophora and Hemichordata. 30
(b) Explain Symmetry in biology. 30
3. (a) Describe urino-genital system of vertebrates. 30
(b) Give brief accounts of general features of egg-laying mammals and pouched mammals. $15 + 15 = 30$

P.T.O.

4. Write account on :
- (a) Modes of life in polychaetes 30
 - (b) Life history of lamellidens. 30

SECTION-B

5. Write brief accounts on any **three** of the following in about 200 words each: 20×3=60
- (a) Different types of learning.
 - (b) Project Tiger.
 - (c) Working principles of Spectrophotometer.
 - (d) Cholera—Its pathogenesis and Epidemiology.
6. (a) What are the characteristics of Populations and Population Dynamics. 30
- (b) Write a note on 'use and conservation of Mineral resources.' 30
7. (a) Write a note on distribution and measure of Central Tendency. 30
- (b) Write a note on 'Carp-culture' and better management practices for carp culture. 30
8. (a) Write a note on social system of Primates and their behaviour. 30
- (b) Describe process of pearl culture, and give a brief account of 'Pearl Industry'. 20 + 10=30