

This question paper contains 4+2 printed pages]

5201

M.Sc. (Final) EXAMINATION, 2016

ZOOLOGY

Paper I

(Comparative Anatomy of Vertebrates and
Animal Behaviour)

Time allowed : Three Hours

Maximum Marks : 100

Part A (खण्ड 'अ') [Marks : 20]

Answer all questions (50 words each).

All questions carry equal marks.

सभी प्रश्न अनिवार्य हैं । प्रत्येक प्रश्न का उत्तर पचास शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

Part B (खण्ड 'ब') [Marks : 50]

Answer five questions in all (250 words each)

selecting one question from each Unit.

All questions carry equal marks.

प्रत्येक इकाई से एक प्रश्न चुनते हुए, कुल पाँच प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

P.T.O.

Part C (खण्ड 'स')

[Marks : 30]

Answer any two questions (300 words each).

All questions carry equal marks.

कोई दो प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

Part A

1. Answer the following questions :

Unit I

- (i) State the difference between the Proto-chordates and Euchordates.
- (ii) Why utilization of oxygen through the process of respiration is essential for living beings ?

Unit II

- (iii) Explain the difference between 'Replacement' and 'Dermal' bones.
- (iv) What is the fate of Wolffian and Mullerian ducts in metanephric urino-genital system ?

Unit III

- (v) Which kind of behaviour is advantageous for animals with short life span to adapt to its environment—
Innate or Learned ? Explain with example.
- (vi) What is Electrolocation ? Name the animals using this kind of perception.

Unit IV

- (vii) For which study on Bees Nobel Prize was bestowed to Karl Von Frisch ?
- (viii) Interpret the difference between Parasitism and Predation.

Unit V

- (ix) Give an example of Inclusive Fitness.
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- (x) What do you understand by sperm competition ?

Part B

Unit I

2. Describe the general plan of circulation among vertebrates with suitable diagram.
3. Illustrate the evolution of Aortic arches explaining its significance with the shifting of habitats.

Unit II

4. Draw the labelled diagrams of the pelvic girdles of amphibia, reptile, bird and mammal. (No description required).
5. Write an essay on lateral line system.

Unit III

6. Give an idea regarding various branches of Ethology.
7. How is the visual perception associated with various aspects of behaviour ?

Unit IV

8. How is the audio communication materialized among mammals using Infrasound, Ultrasounds and Vocalizations ?
9. Elucidate the kinds of Feeding strategies among herbivores and predators.

Unit V

10. What is Aggression ? Explain its types and causes.
11. Enumerate the kinds of learning giving a brief idea of each.

Part C

Unit I

12. Write an analytical account of the theories of origin of Chordates.

Unit II

13. Outline the anatomy of the brain of vertebrates using illustrative diagrams.

Unit III

14. Describe the Chemo-receptors found among vertebrate animals.

Unit IV

15. Write an essay on Anti-predator defenses among animals.

Unit V

16. Explain various kinds of Mating Systems in detail.