2022

ZOOLOGY

(Honours)

Paper Code : IX - A & B

[Taxonomy and Animal Behaviour & Adaptation and Evolution]

(New Syllabus)

Full Marks : 50 Time : Two Hours

Paper Code : IX - A

(Marks : 10)

Choose the correct answer.

Each question carries 1 Mark.

1. In Miller's experiment, which of the following gases was not used ?

   (A) Methane

   (B) Ammonia

   (C) Carbon-di-oxide

   (D) Hydrogen

2. Which one of the followings is not included in learned behaviour —

   (A) Habituation

   (B) Imprinting

   (C) Conditioned reflex

   (D) Kinesis

3. Coacervates were produced by the evolutionary biologist —

   (A) Fox

   (B) Oparin

   (C) Miller

   (D) Darwin

4. Study of biological clocks is called —

(A) Entomology

(B) Ecology

(C) Herpetology

(D) Chronobiology

5. _____ is known as 'Father of Cladistics'.

(A) E.H.W. Hennig

(B) Sokal & Sneath

(C) A.P. de Candolle

(D) None of the above

6. Appearance of first reptile occurred in which geological period —

(A) Carboniferous

(B) Cambrian

(C) Devonian

(D) Silurian

7. Ostrich, the bird usually found in —

(A) Australian realm

(B) Oriental realm

(C) Ethiopian realm

(D) Neotropical realm

8. A chick pecking at the red spot on the mother's beak is an example of —

(A) Instinctive behaviour

(B) Operant behaviour

(C) Associative behaviour

(D) Learning behaviour

9. Speciation occurring due to geographical barrier is termed as —

(A) Allopatric

(B) Sympatric

(C) Parapatric

(D) Peripatric

10. The wings of insects and the wings of bats represent a case of —

(A) Divergent evolution

(B) Convergent evolution

(C) Parallel evolution

(D) Neutral evolution

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Paper Code : IX - B

(Marks : 40)

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Unit - 1 : Taxonomy and Animal Behaviour

1. Answer any *two* questions : 4×2=8

   (a) Write short notes on 'allopatric speciation' and 'parapatric speciation'.

   (b) Write short notes on homonyms and synonyms.

   (c) Define Kinesis and its types.

   (d) Explain FAP with suitable example.

2. Answer any *one* question : 12×1=12

   (a) Give an account on parent-offspring conflict. Define 'phenotypic plasticity' with one suitable example. State briefly on the use of pheromones in mammals. 5+3+4=12

   (b) Enumerate codes of zoological nomenclature. Give an account on molecular taxonomy. Comment on alpha-, beta- and gamma taxonomy. 5+4+3=12

   (c) Describe briefly about different types of fish migration. What are 'social grooming' and 'byproduct mutualism'. What is 'Hamilton's rule' in kinship? 6+4+2=12

Unit - 2 : Adaptation and Evolution

3. Answer any *two* questions : 4×2=8

   (a) Give an account on 'RNA World Hypothesis' in respect to origin of life.

   (b) Give a short note on dating of fossils.

   (c) State briefly the scansorial adaptive features.

   (d) Explain briefly about physiological isolating mechanisms.

4. Answer any *one* question : 12×1=12

   (a) Define fossorial adaptation with examples. Discuss about the essential features are required for an animal to be cursorial. Write short notes on 'founder effect' and 'population bottleneck'. 2+6+(2+2)=12

   (b) Describe the geographic boundary, climatic features and common vertebrate fauna of the Ethiopian realm.

   (c) Define with example Batesian and Mullerian mimicry. State briefly the Darwinian theory of evolution. (3+3)+6=12

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