

Code No. : 7450

Sub. Code : ZZOM 24

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

Second Semester

Zoology – Core

EVOLUTION

(For those who joined in July 2021-2022 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

- In Lamarck's view, the key of organic evolution is that each progeny
 - shows struggle for existence
 - characters acquired by parental generation are inherited
 - is similar to its parents
 - phylogeny is repeated in its ontogeny

- In the natural selection, the production of variation is due to
 - mutation
 - meiosis
 - random mate selection
 - all of them
- This type of speciation enables production of hybrids between two species
 - allopatric speciation
 - parapatric speciation
 - bottleneck
 - sympatric
- Slight genetic change over a few generations in a population that does not result in the evolution of a new species is:
 - macro evolution
 - micro evolution
 - evolutionary equilibrium
 - all of them
- A _____ indicates the hypothetical common ancestor, or ancestral lineage, of the tree.
 - unrooted free diagram
 - rooted free diagram
 - both (a) and (b)
 - none of the above

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- A phylogenetic tree also known as?
 - phylogeny
 - evolutionary tree
 - both (a) and (b)
 - inferred tree
- Which protein was used for the molecular clock
 - haemoglobin
 - albumin
 - lysozyme
 - both (b) and (c)
- The sequence recognized by the restriction enzyme to cut the DNA is called
 - restriction site
 - recognition site
 - both (a) and (b)
 - cleavage site
- A species could become extinct because of
 - sickness
 - no food
 - too many predators
 - all of the above
- Humans have caused some animals to go extinct. What is one way that humans MIGHT have caused some animals to be extinct?
 - destroying animal habitat
 - creating new homes of animals
 - eating all of the animals' food
 - none of the above

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

- Write short notes on kin selection.
Or
Write short notes on Coenozoic era.
- Elucidate the salient features of microevolution.
Or
Write about the patterns of the origin of higher categories.
- What are the steps involved in construction of a phylogenetic tree.
Or
Explain Parsimony methods of phylogenetic inference.
- Discuss about the amino acid sequence.
Or
Factors limit the application of molecular clock models.

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[P.T.O.]



15. (a) List out the types of variations.

Or

(b) Write about the significance of extinction.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Elaborate the natural selection theory.

Or

(b) Briefly discuss about Mesozoic era.

17. (a) Explain in detail about Sympatric speciation.

Or

(b) Discuss about the trends in the origin of higher categories.

18. (a) Give a detailed account of phylogenetic inference.

Or

(b) Discuss in detail about the immunological techniques.

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19. (a) Describe about DNA-DNA hybridization.

Or

(b) Give a detailed account of Molecular clocks.

20. (a) Write the factors causing genetic variation.

Or

(b) Elucidate the causes of extinction.

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