K26FY1617 Pages: 2 Reg No:.....
Name:.....

Second Semester FYUGP Degree (Reg/Sup/Imp) Examination April 2026

KU2DSCZOO106 - BASICS OF EVOLUTIONARY BIOLOGY

2024 Admission onwards

Time : 1.5 hours Maximum Marks : 50

Section A

Answer any 6 questions. Each carry 2 marks.

1. What role do fossils play in studying the history of life?
2. Define the term 'hominin fossil record.
3. Give one example of an organism that exhibits pedomorphosis and explain its significance.
4. Name any two major eras of the geological timescale.
5. How did Darwin's voyage on the HMS Beagle influence his ideas about evolution?
6. Define macroevolution and give an example.
7. What is meant by "descent with modification"
8. What was the hypothesis Miller and Urey tried to prove through their experiment?

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Section B

Answer any 4 questions. Each carry 6 marks.

9. Discuss how the principle of common descent can be supported by embryological and genetic evidence.
10. How did Darwin's study of finches in the Galápagos Islands contribute to the development of his theory?
11. Explain how microevolutionary processes contribute to macroevolutionary changes.
12. How do factors like genetic drift, gene flow, and mutation contribute to the process of evolution?
13. Discuss the role of early Earth's conditions, such as the atmosphere, temperature, and chemical composition, in the origin of life.

14. Describe the Miller-Urey experiment and discuss its significance in explaining the origin of life.

Section C

Answer any 1 questions. Each carry 14 marks.

15. Using evidence from the fossil record, apply the theory of punctuated equilibrium to explain the rapid evolution of certain species. How does this theory differ from the traditional gradualistic model of evolution, and what evidence supports it in the context of significant evolutionary events?

16. Define heterochrony and explain its role in evolutionary development. How do changes in the timing of developmental processes influence the morphology and evolution of organisms? Provide examples.

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