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(FOR THE CANDIDATES ADMITTED 21UZY612

DURING THE ACADEMIC YEAR 2021 ONLY) REG.NO. :

N.G.M. COLLEGE (AUTONOMOUS): POLLACHI

END-OF-SEMESTER EXAMINATIONS: MAY 2024

BSc. ZOOLOGY **MAXIMUM MARKS: 70**

SEMESTER: VI **TIME: 3 HOURS**

PART - III

21UZY612-ECOLOGY AND EVOLUTION

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS. (K1)

1. What type of water habitat is characterized by a mix of freshwater and seawater, creating a unique ecological zone?

a) Freshwater b) Seawater c) Estuary water d) Brackish water

2. Which symbiotic relationship involves one organism benefiting while the other is neither harmed nor helped .

a) Commensalism b) Mutualism c) Parasitism d) Competition

3. Which term describes the structures that share a common evolutionary origin but may have different functions in different organisms?

a) Analogous structures b) Homologous structures

c) Vestigial organs d) Connecting links

4. What term is used to describe the process by which humans have adapted to their cultural and biological environments over time?

a) Selection b) Evolution c) Recollection d) Naming

5. What is the primary focus of Human Ecology?

a) Studying animal behavior.

b) Understanding human-environment interactions.

c) Investigating plant physiology.

d) Analyzing geological processes.

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Differentiate between pedogenesis and soil formation.

7. Explain the key processes that construct the sedimentary cycle, and how it differ from other geological cycles.

(CONT….2)

8. Define the Mutation Theory of De Vries and explain its significance in the context of evolutionary biology.
9. Define the biochemical origin of life.
10. Explain the physiological changes during space travel.

SECTION – B (5 X 4 = 20 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Assess the impacts of human activities on aquatic habitats.

(OR)

b) Explain the termal stratification.

12. a) Assess the effectiveness of current population control measures and compare them with alternative strategies to address the challenges of human ecology.

(OR)

b) Describe the role of commensalism in an ecosystem and describe its impact on species interactions and ecological balance.

13. a) Compare the theories of the origin of life and assess their respective strengths and weaknesses. **(OR)**

b) Interpret the significance of missing links in paleontology and assess their impact on our understanding of evolutionary processes

14. a) Describe the key principles of Neo Lamarckism and assess its relevance in contemporary evolutionary biology. **(OR)**

b) Assess the relevance of Lamarckism in evolutionary biology.

15. a) Interpret the significance of dating fossils in understanding Earth's history and evolution.

(OR)

b) Describe the stages in the biological evolution of man.

SECTION - C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS (K4 (Or) K5)
(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS (FROM Qn. No: 17 to 21)

16. Compare and contrast mutualism and parasitism, analyzing their ecological roles and impacts on species interactions.

17. Examine and evaluate the significance of Urey and Miller's experiment in the context of understanding the origins of life on Earth.

18. Compare and contrast Darwinism and Neo-Darwinism, critically evaluating their principles and impact on the understanding of evolution.

19. Classify the different types of fossils and evaluate their significance in understanding Earth's geological history.

20. Discuss the scope of ecology and evaluate its significance.

21. Evaluate the characteristics of animal populations and discuss their significance in ecological systems.

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