

(FOR THE CANDIDATES ADMITTED

23UZY612

DURING THE ACADEMIC YEAR 2023-2026 ONLY)

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS : MAY 2026

B.Sc., ZOOLOGY

MAXIMUM MARKS: 75

SEMESTER VI

TIME : 3 HOURS

PART - III

23UZY612– ECOLOGY AND EVOLUTION

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

(K1)

1. Acidification in sea water can result from_____
a) CO₂ absorption from atmosphere b) Oil spills c) Plastic pollution d) Thermal discharge
2. Nitrogen-fixing bacteria in legume root nodules is an example of_____
a) Commensalism b) Mutualism c) Parasitism d) Predation
3. Structures with similar function but different embryonic origin are called_____
a) Homologous b) Analogous c) Vestigial d) Adaptive
4. Who is considered the main proponent of Neo-Lamarckism?
a) Charles Darwin b) August Weismann c) Hugo de Vries d) Jean-Baptiste Lamarck
5. The first vertebrates appeared in which period?
a) Cambrian b) Silurian c) Ordovician d) Devonian

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. Name the primary causes of soil erosion.
7. How does microgravity affect bone density during space travel?
8. What is Panspermia theory?
9. What is Neo-Darwinism?
10. Define petrified fossils.

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Explain how eutrophication affects freshwater habitats.

(OR)

- b) Explore the effect of temperature on reproduction and growth of aquatic animals.
12. a) Discuss the role of mutualism in ecosystem stability.

(OR)

- b) Comment on the differences between exponential and logistic population growth in humans.

Ethical Paper

(CONTD 2)

13. a) Outline the biochemical origin of life with reference to the Oparin-Haldane theory.
(OR)
b) Prove the statement 'ontogeny recapitulates phylogeny' with an embryological example.
14. a) Differentiate between Darwinism and Neo-Darwinism in terms of mechanism of evolution.
(OR)
b) Evaluate the concept of inheritance of acquired characters and discuss its limitations.
15. a) Examine how mutation can produce new traits that may lead to speciation.
(OR)
b) Focus on radiometric dating of a fossil and its advantages.

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)**

16. a) Explain how climatic, topographic, and biological factors influence pedogenesis.
(OR)
b) Discuss the biological effects of light on animals, including circadian rhythms and behavior.
17. a) Illustrate the interrelationship between nitrogen cycle and ecosystem productivity.
(OR)
b) Comment on natality, mortality, and their influence on population dynamics.
18. a) Analyze how the Urey-Miller experiment supports the concept of abiotic synthesis of life.
(OR)
b) Interpret the concept of missing links in palaeontology with suitable examples.
19. a) Discuss the principles and significance of Darwinism in modern evolutionary biology.
(OR)
b) Outline how Neo-Lamarckism explains adaptation to the environment with suitable examples.
20. a) Design a chart showing the major eras and periods with examples of representative life forms.
(OR)
b) Infer the major stages in human evolution, highlighting the characteristics of each stage.
