



Class 12 Biology | Evolution

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. The Miller experiment demonstrated abiotic formation of

- A. Oxygen-rich oceans
- B. Modern cells
- C. Some organic molecules
- D. Living mammals

2. Similar basic forelimb structure in humans and whales is evidence of

- A. No common ancestry
- B. Analogy only
- C. Homology
- D. Artificial cloning

3. Wings of birds and butterflies are an example of

- A. Homology in basic wing structure
- B. Vestigial organs
- C. Identical ancestry of wings
- D. Analogy

4. Homologous organs usually illustrate

- A. No evolution
- B. Spontaneous generation
- C. Convergent evolution only
- D. Divergent evolution

5. Similar adaptations in unrelated lineages illustrate

- A. Artificial selection necessarily
- B. Genetic drift necessarily
- C. Convergent evolution
- D. Biological extinction

6. Industrial melanism is explained by

- A. Dark moths always lacking predators
- B. Soot changing every moth's genes directly
- C. Moths choosing dark bodies
- D. Differential survival of pre-existing variants

7. Antibiotic resistance spreads because antibiotics select

- A. All sensitive bacteria to become viruses
- B. Only larger bacterial cells
- C. Only bacteria intentionally adapting
- D. Resistant variants already present or arising by mutation

8. A population's allele frequencies change by chance after a disaster. This is

- A. Genetic drift
- B. Gene flow only
- C. Artificial selection
- D. Directed mutation

9. A few individuals establish an isolated population with altered allele frequencies. This is the

- A. Law of segregation alone
- B. Founder effect
- C. Hardy-Weinberg equilibrium necessarily
- D. Convergent evolution

10. For two alleles in Hardy-Weinberg equilibrium, $p + q$ equals

- A. 2
- B. 0
- C. 0.5
- D. 1

11. If $q = 0.2$ under Hardy-Weinberg equilibrium, recessive homozygote frequency is

- A. 0.2
- B. 0.64
- C. 0.04
- D. 0.4

12. If $p = 0.6$ and $q = 0.4$, heterozygote frequency is

- A. 0.24
- B. 0.36
- C. 0.48
- D. 0.16

13. Which condition helps maintain Hardy-Weinberg equilibrium?

- A. Random mating in a large population
- B. High mutation rate
- C. Frequent migration
- D. Strong natural selection

14. Darwin's finches are a classic example of

- A. Adaptive radiation
- B. Asexual reproduction only
- C. Identical diets in all species
- D. No diversification

15. Selection favouring intermediate phenotypes is

- A. Disruptive selection
- B. Stabilising selection
- C. Random mating
- D. Directional selection

ANSWER KEY — check after completing all 15 questions

1.C 2.C 3.D 4.D 5.C 6.D 7.D 8.A 9.B 10.D 11.C 12.C 13.A 14.A 15.B