

BIOLOGY 2: Organisms to Ecosystems

Time Allowed – 1.5 hours

3 questions should be attempted

1. Which are the most species-rich geographical regions of Earth? Why is this?
2. What sort of uses do these statistical tests have: chi-squared test; *t*-test; correlation test?
3. What are the main types of evidence for the theory of evolution?
4. Write a biological essay on any marine organism(s) of your choice.
5. Tell us about your favourite nature reserve.
6. How might one use quadrats and mark-release-recapture in field studies?
7. What are courtship displays in animals?
8. What are fungi and how important are they?
9. What do you know of major global diseases caused by parasites?
10. Write a biological essay on any freshwater organism(s) of your choice.
11. Outline how nutrients are recycled in natural ecosystems.
12. Write about any famous biologist of your choice.
13. Discuss the importance of zoos and the potential problems of running one.
14. Speculate about features of living organisms that might or might not exist on exoplanets.
15. Write an essay on any extinct organism(s) of your choice.
16. Consider the ecosystem of the soil.
17. Explain the following concepts of population biology: allele frequency; genetic drift; gene flow; community; carrying capacity.
18. Describe scientifically a field study that you have performed.