

## **BIOLOGY 2: ORGANISMS TO ECOSYSTEMS**

Time allowed: 1.5 hours (90 minutes)

**THREE questions should be attempted**

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1. Outline the diverse modes of nutrition among organisms.
2. What would you consider an unhealthy diet and what could be its consequences?
3. Explain the concept and functioning of an 'ecosystem'.
4. What methods do modern biologists use to assess the relatedness of organisms?
5. Consider the advantages and structures of social groups among animals.
6. Why are there generally more species found at latitudes nearer the equator?
7. What sorts of factors can affect population growth?
8. Discuss the different types of variation that can occur in populations, and their evolutionary significance.
9. What types of organisms can be pathogenic for humans, and what diseases do they cause?
10. Give examples of ecological nutrient cycles and outline how they work.
11. Write an essay on any microbiological group (viruses, bacteria, fungi) that interests you.
12. What types of statistics are useful in biology?
13. Describe how the Earth's geological eras are characterised by different assemblages of fossil organisms.
14. Write an essay on marine life.
15. What is meant by 'eutrophication', how can it occur, and what are its effects on habitats?
16. Describe a scientific study of an outdoor habitat that you have performed.
17. Tell us about any experience you have of a conservation site or organisation.
18. What improvements would you make to biology teaching?