

BIOLOGY 1: Molecules to Organs

Time Allowed – 1.5 hours

3 questions should be attempted

1. What is blood and in which body functions is it important?
2. Explain how a molecule of glucose is metabolised in a eukaryotic cell.
3. What are bacteria and how do they differ from eukaryotic cells?
4. Describe how urine is produced in the human body.
5. How are different types of animal adapted to their diets?
6. Write an essay on the structure and functions of biological membranes.
7. Give examples of different enzymes and explain how their reactions can be studied.
8. Outline the cellular steps from a gene on a chromosome to a protein in the cytoplasm.
9. Explain the structure and workings of nerve cells.
10. What happens during a female's monthly 'period'?
11. How are water, inorganic ions and organic compounds moved around in plants?
12. Define and give examples of 'homeostasis'.
13. Choose an infectious disease and imagine you are a doctor who has to treat it. Describe with scientific explanations how you would go about the treatment.
14. What is 'bioinformatics' and why is it important?
15. Write an essay on polysaccharides and their biological functions.
16. Discuss the principles of 'Mendelian' genetics.
17. Which of your physiological systems will show above-normal activity during sports?
18. Describe any biological experiment or survey that you have carried out.