*BANGOR UNIVERSITY*

ENTRANCE SCHOLARSHIP EXAMINATION

**2018**

**BIOLOGY**

# Time allowed: 2 hours

**Answer TWO questions (please write each answer in a SEPARATE answer book).**

1. Describe how the structure of **EITHER** the human respiratory system **OR** the human cardiovascular system is related to its function.
2. Explain, using examples, the principles underlying the theory of evolution by natural selection.
3. Describe and explain how a mitochondrion **AND** a chloroplast are adapted to their functions.
4. Describe the nitrogen cycle, including the form that nitrogen takes in each part and the role of bacteria.
5. Describe the factors affecting the rate of enzyme catalysed reactions.
6. Give an account of the two types of reproduction used by organisms, and state the advantages and disadvantages of each.
7. How is energy transferred through an ecosystem?
8. What is genetic engineering and what are some of its applications?