

THE UNIVERSITY *of York*

Degree Examination 2007

ENVIRONMENT DEPARTMENT

MSc Environmental Economics & Environmental Management

MSc Environmental Economics

MSc Environmental Science & Management

POLLUTION EFFECT ON SOIL/PLANT/WATER ECOSYSTEMS

Time allowed: **two hours**

You must answer **TWO** questions out of **FOUR**.

Pay adequate attention to spelling, punctuation and grammar, so that your answers can be readily understood

1. Using a diagram, explain the key processes responsible for the occurrence of acid flushes in upland rivers. **(20 marks)**.

What other changes in water chemistry are associated with these acid flushes? **(15 marks)**.

How does acid deposition influence such acid episodes? **(15 marks)**.

2. Critically discuss the method used to set critical loads of acidity for peat soils in the United Kingdom in the 1990s. Include in your answer comments on the evidence for biological change in peat ecosystems. **(30 marks)**.

Describe how subsequent research showed that this method for setting critical loads of acidity for peat soils could be improved. **(20 marks)**.

3. The impacts of air pollutants on vegetation are greatest in those areas which now have the highest concentrations or highest rates of deposition.

Discuss the validity of this statement with specific reference to concentrations of ozone and rates of nitrogen deposition.

4. Why is it so difficult to set up experiments that would unequivocally quantify effects upon upland terrestrial ecosystems in the UK of rising carbon dioxide concentration in the atmosphere and associated climate change?