Examination Period 3: 2016/17

ENV301217N

Module Title: Hazardous Wastes Management
Level: Six
Time Allowed: Two Hours

Instructions to students:
• Enter your student number not your name on all answer books.
• Answer two out of four questions.
• All questions are equally weighted.
• Begin each question in a separate answer book; label each answer book clearly with the number of the question you are answering.
• Erasmus/ overseas students are permitted to take a bilingual dictionary into the exam room but will not be permitted any extra time.

No. of Pages: 2
No. of Questions: 4

Page 1 of 2
Answer two questions.

**Question 1**

The Hazardous Wastes Regulations refer to characteristics of a waste that cause them to be classified as hazardous. List these characteristics and evaluate how wastes can be treated to remove or alter the characteristics that make them hazardous. Your answer should include specific examples of wastes and treatments.

(50 marks)

**Question 2**

The United Kingdom faces complex challenges in nuclear waste management because of the variety and volume of wastes that must be dealt with. These wastes have resulted from the active role that the United Kingdom has played (and continues to play) in both civil and military developments since the Second World War. Evaluate the policies and strategies proposed by the United Kingdom since the 1950s for the long term storage and disposal of high level nuclear waste and suggest reasons why little progress has been made over the past fifty years.

(50 marks)

**Question 3**

Increasing energy costs and concerns regarding carbon emissions have led to many energy intensive industries investigating the use of alternative fuels. Hazardous waste fuels have been used in a number of applications such as cement and brick kilns as a substitute for fossil fuels. Critically evaluate the use of hazardous waste as a substitute fuel in industrial applications, giving specific examples where appropriate. You should include consideration of specific wastes, destruction efficiencies and impacts on the industrial process.

(50 marks)

**Question 4**

There is an ongoing debate regarding the need for new waste infrastructure in the UK. Focussing solely on hazardous waste analyse whether there is a need for new facilities, taking into account trends on hazardous waste arisings, the impact of legislation and the specific types of waste and byproducts.

(50 marks)