

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF CIVIL AND WATER ENGINEERING  
FACULTY OF INDUSTRIAL TECHNOLOGY  
BACHELOR OF ENGINEERING (HONS) DEGREE  
PART V FIRST SEMESTER EXAMINATIONS- FEBRUARY 2010**

**SOLID WASTE MANAGEMENT –TCW5006**

**INSTRUCTIONS**

Answer all questions.

Total marks: 100  
Time: 3 hours

**QUESTION 1**

- (a) Describe the major categories of solid waste. **(5marks)**
- (b) Compare and contrast the various options for collection of solid waste. **(10 marks)**
- (c) A community of 50 000 people generates solid wastes at the rate of 0.8kg/ person /day. How many non-compacting vehicles (7000kg per load) are required to collect the waste based on twice weekly collection? The collection system runs on a 5 day week and each vehicle does two trips per day. **(10 marks)**

**QUESTION TWO**

You are required to carry out an Environmental Impact Assessment of a sanitary landfill in an urban setting. Describe how you would carry out this exercise and write a draft report of the assessment highlighting the impacts. (25marks)

**QUESTION THREE**

- a. Write brief notes on the following using diagrams where appropriate:
- i. Sanitary landfill
  - ii. Incineration
  - iii. Recycling **(15 marks)**
- b. Describe in detail the composting method of solid waste disposal. ( 10 marks)

**QUESTION FOUR**

- a. Discuss the objectives of managing solid waste. (5 marks)
- b. Define the three “Rs” with reference to solid waste management. (5 marks)

- c. Discuss the legal framework that exists in Zimbabwe that governs matters relating to solid waste management. Highlight what you perceive as the shortcomings of this framework. (15 marks)