

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY  
FACULTY OF ARCHITECTURE AND QUANTITY SURVEYING  
BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE  
PART II SECOND SEMESTER SUPPLEMENTARY EXAMINATIONS - JULY 20006**

**CONSTRUCTION ESTIMATES AND PRICING – AQS 2205**

**TIME:** 3Hours

**TOTAL MARKS:** 100

**INSTRUCTIONS:**

Answer Question 1 and any other 3 Questions. Make the necessary assumptions

**QUESTION 1**

Calculate the cost of owning and operating a one cubic metre capacity diesel dumper.

Assume the following:

- Cost of purchasing a dumper is \$8 Billion
- The dumper operates for 8 hours per day from Monday to Friday
- The dumper uses 5 litres of diesel per 8-hour day and 7 litres of lubricating oil per week
- Cost of lubricating oil is \$150,000 per litre
- Cost of diesel is \$220,00 per litre

(25 marks)

**QUESTION 2**

- a) Define and discuss two different methods of approximate estimating and state all the factors controlling the choice of each method. (15 marks)
- b) List five sources from which cost information for establishing unit costs for approximate estimates may be obtained. (10 marks)

**QUESTION 3**

- a) What are the factors to be considered when coming up with a unit rate? Discuss the advantages and disadvantages of both. (15 marks)
- b) Wastage of material must be reflected in the unit prices. Site the classes of material wastage associated with building work. (10 marks)

**QUESTION 4**

Use the necessary assumptions to calculate the following:

- a) Excavate basement, starting at ground level, exceeding 1.5 metres but not exceeding 3metres

deep. Per m<sup>3</sup>. (Using a 1/4m<sup>3</sup> excavator).

(10 marks)

b) Concrete 1:3:6 mix 38 mm aggregate in trench foundations over 300mm thick per m<sup>3</sup> (Using a 10/7 mixer continuously).  
(15 marks)

**QUESTION 5**

a) What factors affect the accuracy of an estimate?

(10 marks)

b) Discuss the involvement of the contractor's personnel and external organizations in estimating and tendering.  
(15 marks)

**END OF EXAMINATION**