

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF THE BUILT ENVIRONMENT**  
**BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE**  
**PART 1 FIRST SEMESTER EXAMINATIONS – JANUARY 2013**  
**CONSTRUCTION EQUIPMENT AND METHODS - AQS 4108**

Total Marks: 100

Time: 3 hours

Instructions to candidates

Answer any five (5) questions, all questions carry equal marks

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**Question One**

Describe at least three (3) major methods of equipment acquisition and explain their advantages and disadvantages. (20 marks)

**Question Two**

Planning of a major construction project involves deciding about the extent of use of construction equipment. What are the main factors involved in deciding the extent of mechanisation in a construction industry project? (20 marks)

**Question Three**

- a) Explain the major components that should be taken in to account when determining the hourly rate of construction equipment. (15 marks)
- b) Differentiate between depreciation and obsolescence. (5 marks)

**Question Four**

A contractor has purchased excavating plant costing \$30 000. The estimated economic life is 10 years. The salvage value after 10 years is \$12 000 and the current interest rate is 10% using straight line method,

- a) The depreciation charges in years 1 and 2. (6 marks)
- b) The depreciation reserve accumulated by the end of year 5. (7 marks)
- c) The book value at the end of year 5. (7 marks)

**Question Five**

- a) Explain at least three main reasons for the replacement of construction equipment. (10 marks)
- b) Explain some of the factors you would consider for the replacement of equipment before the expiry of its estimated economic life. (10 marks)

**Question Six**

Proper selection of construction equipment for any project is of vital importance for the speedy and economic completion of the project. Discuss at least ten (10) principles governing the selection of construction equipment. (20 marks)

**END OF EXAMINATION**