

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF BUILT ENVIRONMENT

BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE
PART IV FIRST SEMESTER EXAMINATIONS APRIL 2009
CONSTRUCTION EQUIPMENT AND METHODS AQS4108

TIME: 3 Hours

TOTAL MARKS: 100

Instructions

Answer all) questions only. All question carry equal marks.

Question 1

- a) Generally, maintenance can be done in two ways. Describe the two ways in which maintenance can be done. (8 marks)
- b) What are the main functions and advantages of preventive maintenance? (12 marks)

Question 2

- a) Explain the terms “depreciation” and “obsolescence” and state how they relate to each other. (8 marks)
- b) List the various factors that should be considered when purchasing equipment for construction. (12 marks)

Question 3

- a) Modern project planning involves use of bar chart and / or critical path scheduling. Compare the two methods of planning and discuss their advantages and disadvantages. (8 marks)
- b) The data regarding the activities of a project are given below:

Activity	Immediate predecessor	Duration (weeks)
A	-	1
B	A	4
C	A	3
D	A	7
E	B	6
F	C,D	2
G	E,F	7
H	D	9
I	G,H	4

- i) Draw the project network. (8 marks)
- ii) Determine the critical path and project duration. (4 marks)

Question 4

- a) Assume you are employed as a quantity surveyor by a contractor, list the factors you would consider when pricing for the use of machinery owned by the Contractor on a project. (8 marks)
- b) Distinguish between direct costs, and indirect costs on a project. (12 marks)

Question 5

- a) What do you understand by the term “Economic life of an equipment or plant?”
(8 marks)
- b) There are several types of equipment or plant that are very essential for use in construction. List at least 3 items of equipment or plant that could be used during the construction of each one of the following projects and also explain the different function of such equipment.
- i) Earth dam (4 marks)
- ii) Surfaced (tarred) road (4 marks)
- iii) High rise concrete building (4 marks)

END OF EXAMINATION