THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

036/2

COMPUTER STUDIES 2
(For School Candidates Only)

TIME: 3 Hours

2006/10/26 a.m.

Instructions

1. This paper consists of **three** (3) questions.
2. Answer **one** (1) question only.
3. Mathematical tables, mathematical formulae and slide rules may be used.
4. Electronic calculators are **not** allowed in the examination room.
5. Show all steps in your working giving answers at each stage.
6. Cellular phones are **not** allowed in the examination room.
7. Write your **Examination Number** on every page of your answer booklet(s).

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1. The value of x in quadratic equations can be obtained by using the general formula

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

We would like to write a program which when supplied with values of a, b and c will print the values of x.

(a) Draw a flow chart to represent the design of the program.

(b) Using BASIC language, write a program which will implement the drawn flow chart to solve the quadratic equation.

2. The following is the inventory data in Tshs

Part number	Description	Unit price	Quantity	Value
0742	Transistor	3,700	155	xx
3867	Hand truck	9,000	100	xx
4987	Chair	5,000	850	xx
5123	Hat rack	1,300	85	xx
				xx Total

Write a BASIC program that will read data and calculate the values (xx) and total value (xx). The program will display all part numbers, descriptions, unit price, quantity, value and the total value.

3. Write a BASIC program to handle 4 types of conversions. The program should have a menu for conversion choice and will allow the user to make choice among the alternatives and the program will compute the conversion. The conversions to be computed in the same program are

(a) kilometers to miles

(b) miles to kilometres

(c) Celcius to Fahrenheit

(d) Fahrenheit to Celcius

Hint: 1 kilometer equals to $\frac{5}{8}$ miles and

1 Fahrenheit equals to $\frac{9}{5}$ Celcius + 32

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