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

136/2

COMPUTER SCIENCE 2
(PRACTICAL)
(For Both Schools and Private Candidates)

Time: 3 Hours **Tuesday, 21st February 2012 a.m.**

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **two (2)** questions only including question **one (1)**.
3. Show all the steps you have followed in doing your work in the booklet provided.
4. Save your work on the desktop in the folder named by your **Examination Number**.
5. Cellular phones are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

1.(a) By using C++ programming, develop a program that will find a factorial of a number.

Note:
n!=n(n-1)(n-2)(n-3)(n-4).....*1
eg: 5!=5*4*3*2*1=120 **(10 marks)**

(b) Write a C++ program by using switch-case statement which will,
(i) Prompt the user to enter options as follows:
1 choose even numbers.
2 choose odd numbers.
3 choose prime numbers.
(ii) Allow the user to select highest value of the selected type and then the program will display the number that found within the range. **(15 marks)**

2.(a) Use Visual Basic code to develop a program that will solve the roots of quadratic equation x_1 and x_2 by entering coefficients of the equation a, b and c. The program should display the results after clicking a command button named "Solve".
The program should display appropriate messages if the following conditions are met.

Note
Use the following conditions:

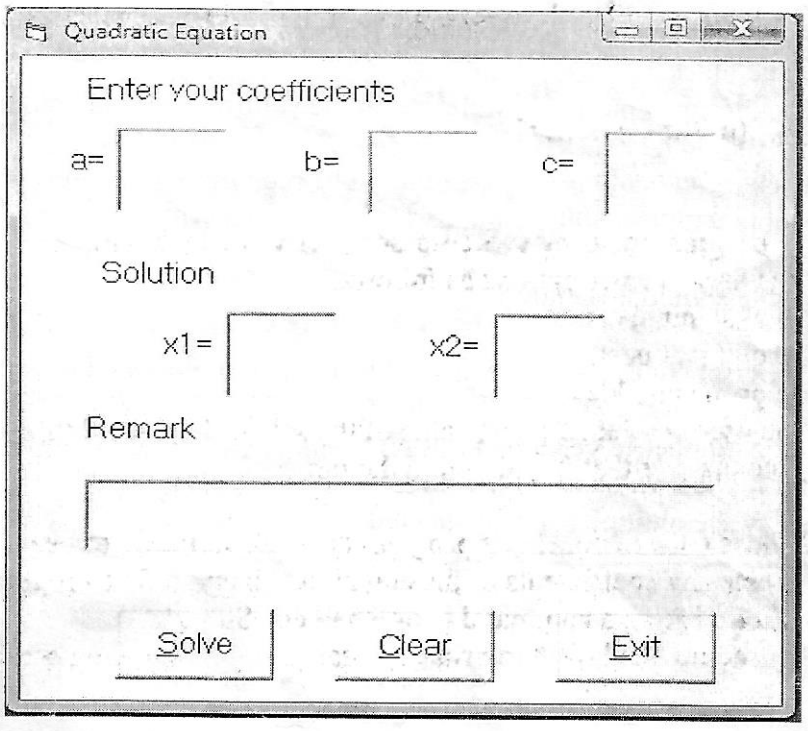
(i) If $b^2>4ac$, $x_1 = \frac{-b-\sqrt{b^2-4ac}}{2a}$ and $x_2 = \frac{-b+\sqrt{b^2-4ac}}{2a}$,

Remark= 'The roots are real distinct'.

(ii) If $b^2=4ac$, $x_1 = x_2 = \frac{-b}{2a}$, Remark= 'The roots are real identical'.

(iii) If $b^2<4ac$, $x_1=m-in$ and $x_2=m+in$, Remark= 'The roots are complex'.

(iv) Add command button "Clear" to clear all data and "Exit" to exit the form. **(17 marks)**



(b) By using visual Basic codes, develop a form that will allow the teacher to enter students record i.e. Name, Marks and Class to a Microsoft Access Table called "Student" after clicking a command button "Submit".

(08 marks)

3. (a) By using HTML codes design a house plan as indicated below.

My House

<table>
<tr><td rowspan="2">Bed room</td><td colspan="3">Sitting room</td></tr>
<tr><td>Kitchen</td><td>Store</td><td>Toilet</td></tr>
</table>

Page Specification

(i) Use heading level one ($\mathbf{h_1}$) to write the heading "My House".
(ii) Draw horizontal line to separate the heading and the plan.
(iii) Use green colour as a background for the bedroom. The font colour of thword "Bed room" should be red.
(iv) The sitting room should have a brown background. The font colour of the word "sitting room" should be white.

(v) Put purple colour background for the Kitchen. The font colour of the word kitchen should be black.

(vi) The background colour for Store should be yellow. The font colour of the word "Store" should be Black.

(vii) The background colour for toilet should be red with font colour Black.

(viii) Take table width as 300, height as 150 and border width=1

(ix) Your page title is "My first page"

(x) Also table should be centred **(15 marks)**

(b) Prepare JavaScript codes with one prompt box called multiple table which will prompt user to;

(i) Enter a number to generate multiples.

(ii) Enter highest value to set the limit for the multiples.

(iii) Display the multiples of the selected number. **(10 marks)**