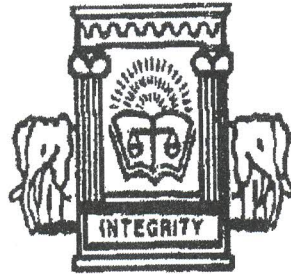


INSTITUTE OF CHARTERED ACCOUNTANTS (GHANA)



MAY 2011 EXAMINATIONS
(PROFESSIONAL)

PART 2

QUANTITATIVE TOOLS IN BUSINESS
(Paper 2.1)

Attempt five (5) Questions in ALL

TIME ALLOWED:

Reading & Planning - 15 Minutes
Workings - 3 Hours

QUESTION 1

Eno Mary wants to accrue GHS100,000 in 10 years, so she can start a business. A uniform amount will be invested at the end of each year to achieve this.

Required:

- a) Draw the time-line for this investment. **(2 marks)**
- b) What is the uniform value if the investment is expected to yield 7% interest compounded annually? **(5 marks)**
- c) If Eno Mary deposits GHS6,000 each year, to accumulate the same amount at 7% interest compounded annually, how many years will it take her to achieve the same amount? **(8 marks)**
- d) What one-time investment today will result in the same amount in 10 years at a rate of 7% interest compounded annually? **(3 marks)**
- e) Redraw the timeline for (d) above indicating only the present and future value points. **(2 marks)**

(Total: 20 marks)

QUESTION 2

Kaya-Kaya Limited makes two puddings, Vanilla and Chocolate. Each serving of Vanilla pudding requires 2 teaspoons of sugar and 25 fluid measure of water, and each serving of chocolate pudding requires 3 teaspoons of sugar and 15 fluid measure of water. Kaya-Kaya has available each day 3,600 teaspoons of sugar and 22,500 fluid measure of water. Kaya-Kaya makes no more than 600 servings of Vanilla pudding because that is all that it can sell each day. Kaya-Kaya makes a profit of GHS10 on each serving of vanilla pudding and GHS7 on each serving of chocolate.

Required:

- (i) Formulate a linear programming problem. **(4 marks)**
- (ii) Construct an initial simplex tableau. **(3 marks)**
- (iii) Perform the first iteration of the initial simplex tableau. **(4 marks)**

