<u>**STRICTLY CONFIDENTIAL**</u>

<u>**THE INSTITUTE OF CHARTERED ACCOUNTANTS EXAMINATION COUNCIL**</u>

<u>**CERTIFICATE IN FINANCIAL ACCOUNTING**</u>

<u>**DECEMBER 2019 EXAMINATIONS**</u>

<u>**FA 2 PRACTICAL MATHEMATICS AND COMPUTING**</u>

<u>**EXAMINER'S REPORT**</u>

<u>**GENERAL COMMENTS**</u>

The paper was fair with questions covering the whole syllabus. Practical Mathematics and Computing questions were evenly distributed in both sections A and B. The questions included those requiring calculations and explanations. The language used in the questions was clear and tasks were of appropriate level of difficulty.

The general performance of the candidates was below average despite the fact that the paper tackled familiar areas of the syllabus. A number of candidates showed mastery over questions requiring calculations compared to those requiring narratives. It was clear that candidates, while knowing terms used in computing, they lacked knowledge of the meaning of the terms. Some candidates demonstrated lack of knowledge in the use of scientific calculators.

There was clear indication of either lack of preparation for the examination or it was a poor crop of candidates.

## COMMENTS ON INDIVIDUAL QUESTIONS

## QUESTION 1

(a)     Candidates were required to evaluate  (i) $\sqrt{2.62}$  and (ii)  $5^{-1.33}$

Most candidates had no problems in finding the sqare root of  2.62, however, some candidates had problems in dealing with a negative power instead they were dividing 1.33 by 5.

(b)     Candidates were required to simplify

$$\frac{\left(\frac{2}{3}\right)^2 \times \sqrt{\frac{36}{9}}}{8/9}$$

Some candidate had problems to find $\left(\frac{2}{3}\right)^2$ they were getting $\frac{4}{6}$ instead of $\frac{4}{9}$. Yet some candidates having managed to simplify $\frac{\left(\frac{2}{3}\right)^2 \times \sqrt{\frac{36}{9}}}{8/9}$ to get $\frac{\frac{4}{9} \times \frac{6}{3}}{8/9}$, they were getting

$\frac{4}{9} \times \frac{6}{3} \times \frac{8}{9}$ instead of $\frac{4}{9} \times \frac{6}{3} \times \frac{9}{8} = \frac{1}{1} = 1$ (They were  forgetting to turn $\frac{8}{9}$ upside down to get $\frac{9}{8}$)

(c)     Candidates were requested to calculate interest rate required for  K750000 to grow to K1,264,000 at the end of 5 years when interest was earned annually.

Many candidates were confusing the principle K750000 with the accumulated amount K1,264,000in the formula $A = P(1 + i)^n$. Some candidates used simple interest formula

$I = \frac{PRT}{100}$ some candidates while getting the correct substitutions in the formula

$1,264,000 = 750,000\ (1 + i)^5$, they were subtracting 750,000 both sides instead of

dividing.  Yet some candidates failed to use a calculator to solve $\sqrt[5]{\frac{1,264,000}{750,000}}$

**QUESTION 2**

(a)    The question involved an equation of a straight line $y = 2x - 3$ where candidates were required to state the gradient of the line, the coordinates of the points where the line touches/cuts the $y$ – axis and the $x$- axis

Some candidates were taking $x$ axis as $x = 0$ and $y$ axis as $y = 0$

(b)    The candidates were required to solve the linear equation $3(x + 5) - 2(x - 5) = 30$. Some candidates had problems removing the brackets where a negative number was involved. However most candidates solved the equation correctly.

(c)    Candidates were required to state three primary uses of Random Access Memory (RAM). Although most candidates stated correctly the uses of RAM, some candidates had difficulties expressing themselves in trying to state the uses of RAM. Some explanation could not even make sense.

**QUESTION 3**

(a)    Candidates were required to describe impact and non-impact printers. Most candidates were describing the two printers as they make noise (impact) and are silent (non-impact printers) without stating how these printers imprint characters on paper e.g. striking inked ribbon in case of impact printers and not striking the print head against the ribbon for non-impact printers.

(b)    Candidates were given a list of printers to state whether they are impact or non-impact printers. Although most candidates indicated correctly, there was an indication that some candidates were guessing.

(c)     Candidates were required to calculate   $y - z$  where $y = 4x^3 + x - 5$,
$z = 3x^3 - 6x^2 - 4x + 2$ and  $x = 2$

Most candidates managed to substitute $x$ with 2 in the expression. However they did not

correctly substitute $y$ and $z$ in the brackets so they got $4x^3 + x - 5 - 3x^3 - 6x^2 - 4x + 2$

instead of $4x^3 + x - 5 - (3x^3 - 6x^2 - 4x + 2)$ giving $4x^3 + x - 5 - 3x^3 + 6x^2 + 4x - 2$

In some cases candidates were trying to simplify $y$ i.e. $4x^3 + x - 5 = 5x^3 - 5$

(They were adding unlike terms)

## QUESTION 4

(a)     This question required candidates to solve quadratic equation $3x^2 - 5x + 1 = 0$ using

formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Some candidates were not including the $-b$ for the division line they wrote

$$-b \pm \sqrt{\frac{b^2 - 4ac}{2a}}$$

yet others while using the correct formula had problems when substituting $-5$ they wrote

$-5$ instead of $-(-5) = 5$

(b)     The candidates were requested to state one function of Arrow keys, Back space, End and

Tab keys as used in excel. The candidates showed lack of knowledge of the basic functions

of the keys on the keyboard.

## QUESTION 5

(a)     The question required candidates to explain any four benefits of client server computing.

Although most candidates performed very well on this part of the question, some showed

lack of knowledge of what client server computing is.

(b)     The candidates were required to calculate the value of the property at the end of three years.

The property that was purchased for K119,000 three years ago and whose value increased by

4% in the first year then 7% in the second year but decreased by 6% in the third year. Some

candidates managed to calculate the progressive values correctly. However, most candidates

used original value of K119,000 each year.

Part (ii) of (b) required candidates to calculate the overall percentage change in the value over the three years some candidates were giving the answer in monetary terms instead of percentage. Yet others just added 4% and 7% then subtracted 6%.

(c) The question required candidates to calculate simple interest on K3.5 million at 3% per annum for 5 years, giving the answer to the nearest K10,000. Those candidates that attempted this question performed very well, however some lost a mark for not rounding the answer to the nearest K10,000.

## QUESTION 6

(a) The candidates were required to define computer security and firewall as used in computing. Most candidates concentrated on software security no mention was made of hardware safety in the definition of computer security.

For firewall, some candidates thought of it as the physical wall to prevent fire from damaging computers.

(b) The question requested candidates to calculate mean and standard deviation of loan amounts of 10,000 customers. The performance for this part was generally good. However, some candidates were using wrong figures especially when calculating standard deviation.

## QUESTION 7

(a) This part of the question was on probability. While the performance was good some candidates had problems with conditional probability.

(b) This part was based on sets very few candidates managed to answer the question correctly. There was clear indication that the candidates lacked knowledge on set theory.

## CONCLUSION

Although the paper was well balanced in terms of syllabus coverage and calculations and narrative questions, most candidates performed poorly. Candidates had problems in computing questions, probability and approximation. Most candidates failed to express themselves in correct english.

## RECOMMENDATIONS TO CANDIDATES

Candidates must

- Prepare very well for the examinations by covering the whole syllabus.

- Be able to apply the knowledge learnt to practical situations.

- Take examinations seriously and carefully read the questions before answering.

- Read and follow the examination instruction e.g. starting each question on a fresh page. Some candidates were answering more than one question on a single page.

- Read the teaching manual carefully and try to understand each topic in the manual, than Just memorizing.
- Be able to differentiate the terms, explain, define, state.

## RECOMMENDATION TO TRAINING INSTITUTIONS AND SELF STUDYING

- The syllabus must be thoroughly completed.

- Give practical questions to candidates so that they have adequate practice in answering Questions.

- Assignments and tests must be marked and revised.

- Where there are more than one method of solving a problem students must be exposed to all possible ways of solving a problem.

- Teach students how to use/operate different function keys on the calculator.

- Computing should include practical use of the computer.