

Examination No. _____

THE PUBLIC ACCOUNTANTS EXAMINATION
COUNCIL OF MALAWI

2011 EXAMINATIONS

CERTIFICATE IN FINANCIAL ACCOUNTING
PROGRAMME

PAPER FA 2: PRACTICAL MATHEMATICS & COMPUTING

FRIDAY, 2 DECEMBER 2011

TIME ALLOWED: 3 HOURS
9.00 AM - 12.00 NOON

INSTRUCTIONS: -

1. You are allowed **15 minutes** reading time **before the examination begins** during which you should read the question paper and, if you wish, make annotations on the question paper. However, you are **not** allowed, **under any circumstances**, to open the answer book and start writing or use your calculator during this reading time.
2. Number of questions on paper – 7.
3. Answer **ALL** questions in **Section A** and any **THREE** questions in Section B.
4. Marks for each question are indicated.
5. Use of programmable calculators is **NOT** allowed.
6. All workings must be clearly shown.
7. Begin **each** answer on a fresh page.
8. This question paper must **NOT** be removed from the examination hall.
9. **DO NOT OPEN THIS PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.**

This question paper contains 4 pages

SECTION A**Answer ALL questions in this section**

1. (a) (i) What is the difference between a continuous and a discrete variable?
Give one example of each. **4 Marks**
- (ii) What are unbiased errors? **3 Marks**
- (b) (i) In computing what is a data file. **2 Marks**
- (ii) Name **three** types of data files. **3 Marks**
- (TOTAL : 12 MARKS)**

2. (a) A car is bought for K1m (One Million Kwacha).

Required:

How much will the car be worth after 10 years if:

- (i) The straight line depreciation method is used and the car loses K10,000 of its value each year. **3 Marks**
- (ii) The reducing balance depreciation method is used and the car depreciates at 8% per annum. **3 Marks**
- (iii) Which method of depreciation is more appropriate? Give reasons for your answer. **2 Marks**

- (b) A businessman purchased a computer that was discounted at the rate of 8%. If the discounted price was K79,650, find the original price of the computer, to the nearest Kwacha. **4 Marks**
- (TOTAL : 12 MARKS)**

3. (a) Find the values of **a** to **l** in the following table:

binary base 2	octal base 8	decimal base 10	Hexadecimal base 16
00110111	A	b	c
d	47	e	f
g	H	65	i
j	K	l	2b

12 Marks

Continued/.....

- (b) Add the following binary numbers

$$\begin{array}{r} 11011 \\ + 10110 \\ \hline 10111 \\ \hline \end{array}$$

2 Marks

- (c) Subtract $12B_{16}$ from $A12_{16}$

2 Marks

(TOTAL : 16 MARKS)

SECTION B

Answer THREE Questions ONLY from this section

4. (a) What is a spreadsheet? **2 Marks**
- (b) What does @ AVERAGE (A1-----A3) or @ AVERAGE (A1 : A3) mean? **3 Marks**
- (c) Which symbol in a spreadsheet is used to show
- (i) Multiplication **1 Mark**
- (ii) Division **1 Mark**
- (iii) Addition. **1 Mark**
- (d) An office manager, is contracted to work 8 hours a day from Monday to Friday each week. She is paid a basic hourly rate of K620 per hour worked and receives her wage weekly. Any additional hours worked from Monday to Friday are paid at a higher rate of K930 per hour. Her basic hourly rate is doubled for every hour worked during weekends.

Required:

- (i) Calculate the office manager's weekly wage (assuming she does not work any additional hours to those contracted). **2 Marks**
- (ii) Assuming the office manager worked 5 additional hours during the week and 4 hours on Saturday, calculate her total wage for the week. **4 Marks**
- (iii) Calculate how many hours she would need to work over the weekend to receive the same increase in her basic wage as if during the week she had to worked 6 additional hours to those contracted. **6 Marks**

(TOTAL : 20 MARKS)

Continued/.....

5. (a) Mr Rice is considering a project which would cost K5m (5 million Kwacha) with the following expected net cashflows. He expects a return of 16% p.a.

Year	Net Cashflow K'000
1	2,000
2	1,925
3	1,841
4	1,748

Required:

State whether or not the project is worthwhile. **12 Marks**

- (b) Simplify the following logarithm equation to a single log term

$$\log(x - 2) + \log x \quad \mathbf{2 \text{ Marks}}$$

- (c) A furniture company is considering placing an advertisement in a magazine in order to increase its sales. The cost of an advertisement in a single issue of the magazine is K150,000. It is estimated that the circulation of the magazine in the month will total 600,000 copies and that the additional furniture sales generated by the company's advertisement will be 500.

Required:

- (i) Calculate the cost of the advertisement per copy of the magazine sold. **2 Marks**
- (ii) Calculate the advertisement cost for each additional furniture sale generated. **2 Marks**
- (iii) What is the expected number of sales generated for every K3,000 spent on advertising in this particular magazine? **2 Marks**

(TOTAL : 20 MARKS)

Continued/.....

6. (a) For each of the following events classify whether all the possible outcomes

are “equally likely” or “not equally likely”:

- (i) The tossing of a coin. **1 Mark**
- (ii) Selecting students on the basis of eye colour. **2 Marks**
- (iii) The rolling of a six-sided dice. **2 Marks**

- (b) The table below gives a breakdown of the use of four different types of fertilizer in Malawi for the years 1994, 1999 and 2004.

Fertilizer	1994	1999	2004
Nitrogen straighter	553	618	590
Nitrogen compound	413	430	378
Phosphate	236	291	206
Potash	299	357	247

Required:

Calculate:

- (i) The total quantity of fertilizer used in each year. **3 Marks**
- (ii) The percentage of each fertilizer used in each year. **12 Marks**
(TOTAL : 20 MARKS)

7. (a) A bag of fertilizer is made up of the nutrients nitrogen, phosphorus and potassium in the ratio 3:2:2.

Required:

- (i) If a bag of fertilizer contains 14kg of phosphorus, calculate how much nitrogen it contains. **6 Marks**
- (ii) Calculate the total weight of 200 bags of fertilizer in tonnes (1 tonne = 1000 kgs). **3 Marks**
- (iii) If the weight of a bag is changed to 84kg, calculate the weight of potassium, in tonnes that will be contained in 100 bags. **3 Marks**

- (b) Explain the **difference** between primary and secondary data. **4 Marks**
- (c) State **four** qualities of good information. **4 Marks**

(TOTAL : 20 MARKS)

E N D