UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

CANDIDATE NAME		
CENTRE NUMBER		CANDIDATE NUMBER

1128716099

COMMERCIAL STUDIES **7101/02**

Paper 2 Arithmetic **October/November 2012**

2 hours

Candidates answer on the Question Paper.

Additional Materials: Mathematical tables

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces provided above.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions in **Section A** and any **two** questions from **Section B**.

All working must be clearly shown in the space provided and should be done on the same sheet as the rest of the answer.
The businesses described in this question paper are entirely fictitious.
You may use a calculator in this examination.
N.B. £1 = 100p

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **12** printed pages.

DC (NS/SLM) 52107/3

UNIVERSITY *of* CAMBRIDGE International Examinations

[Turn over

Section A (76 marks)

Answer **all** questions in this section.

1 Calculate

(a) the simple interest paid on £450 at 3.7% for six months,

Answer (a) £ .... [3]

(b) the gross earnings of a worker paid £8.04 per hour for working a 37 hour week,

Answer (b) £ .... [3]

(c) $2.6884 - 3.12 \times 0.82$.

Answer (c) .... [3]

2 Calculate

(a) the percentage profit, on the cost price, when stock is purchased at \$2000 and sold at \$2510,

Answer (a) ....% [3]

(b) the cost of 25 tonnes of tea at \$13.28 per kilogram,

Answer (b) \$ .... [3]

(c) $1\frac{4}{5} \div 1\frac{5}{8}$ giving your answer correct to 3 decimal places.

Answer (c) .... [3]

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3 **(a)** Calculate the amount, at the end of 5 years, on a deposit of \$9000 when compound interest is added yearly at 4.2%.

Answer (a) \$ .... [6]

(b) A bottling company takes out the following insurance.

Item	Value	Premium
Premises	\$200 000	$\frac{1}{4}$%
Machinery	\$80 000	\$1 per \$100
15 trucks		\$540 each

Calculate the total premium payable.

Answer (b) \$ .... [6]

4 **(a)** Calculate the gross annual income when $20 000 is invested in 3.7% government stock at 78.

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Answer (a) $ .... [5]

(b) Write 125%

(i) as a fraction in its lowest terms,

Answer (b)(i) .... [2]

(ii) as a decimal.

Answer (b)(ii) .... [1]

(c) Calculate 6.5 ÷ 2.7, giving your answer correct to 3 significant figures.

Answer (c) .... [2]

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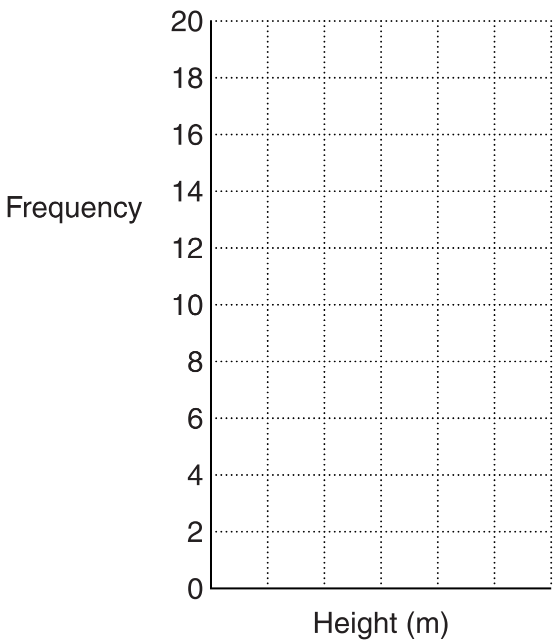
5 In a tree plantation the heights (to the nearest metre) of 59 trees were recorded.

Height of tree (m)	4	5	6	7	8
Frequency	5	14	16	20	4

(a) On the grid, draw and label a bar chart to show this information.



[3]

(b) State the mode.

Answer (b) .... m [1]

(c) Work out the median.

Answer (c) .... m [2]

(d) Calculate the mean.

Answer (d) .... m [4]

(e) Trees which are 8 metres tall are sold for timber at a price of $270 each.

What is the income from selling these trees?

Answer (e) $ .... [2]

6 **(a)** The cost of hiring a taxi in a city is made up of a fixed charge for the first kilometre and a price for every kilometre after the first kilometre.

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Use the graph to answer the following.

(i) Write down the fixed charge.

Answer (a)(i) \$ .... [1]

(ii) Write down the cost of travelling 4 km.

Answer (a)(ii) \$ .... [1]

(iii) If the cost was \$6, how far had the taxi travelled?

Answer (a)(iii) .... km [1]

(iv) Work out the cost per kilometre after the first kilometre.

Answer (a)(iv) \$ .... [3]

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(b) The cost of running a taxi for a year is made up of three charges.

These charges are in the ratio

insurance : maintenance : fuel = 3 : 2 : 5.

(i) Calculate the cost of the insurance if the total cost of running the taxi for a year was $1600.

Answer (b)(i) $ .... [3]

(ii) Calculate the cost of the maintenance if the fuel cost $1500.

Answer (b)(ii) $ .... [3]

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7 An investor has the following portfolio of shares.

	Number of shares	Purchase price per share($)
Orion Bank	650	4.510
Northern Electricity	60	3.420
Eastern Insurance	1610	1.075

(a) Orion Bank pays a dividend per share at 10% of the purchase price.

Calculate the total dividend received by the investor.

Answer (a) $ .... [3]

(b) The investor sells the Northern Electricity shares at $3.96.

The broker charges 2% commission on the selling price.

Calculate the profit made by the investor.

Answer (b) $ .... [4]

(c) The Eastern insurance company has a rights issue of 1 share for 10 shares at a price of $0.86 a share.

Calculate the total purchase price paid by the investor for all her Eastern Insurance shares including the rights issue.

Answer (c) $ .... [5]

Section B (24 marks)

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Answer any **two** questions from this section.

8 A company has three partners Ashraf, Christelle and Jiwan.

They invest capital in the company of $30 000, $20 000 and $25 000 respectively.

The partners agree to share the net profit in the ratio of their investments.

The gross profit for 2011 was $160 000.

Trading expenses amounted to $28 000 and tax was paid at 20% of the profits after expenses.

(a) How much **net** profit did each partner receive in 2011?

Answer (a) Ashraf $.......................

Christelle $.......................

Jiwan $....................... [8]

(b) Calculate the company's net profit as a percentage of the gross profit.

Answer (b).......................% [2]

(c) Calculate the percentage of the company owned by Ashraf.

Answer (c).......................% [2]

9 A foreign exchange office in Kuala Lumpur had the following opening hours in a week.

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Day	Open	Close
Monday to Friday	0830	1600
Saturday	0830	1100
Sunday		

(a) Work out the total number of hours that the foreign exchange office was open in one week.

Answer (a) .... hours [5]

(b) The foreign exchange office changes its opening hours on Saturday to 0830 to 1200.

Calculate the percentage increase in opening hours for the week.

Answer (b) .... % [3]

(c) The foreign exchange office sells Malaysian Ringits at the exchange rate of £1 = RM 5.32.

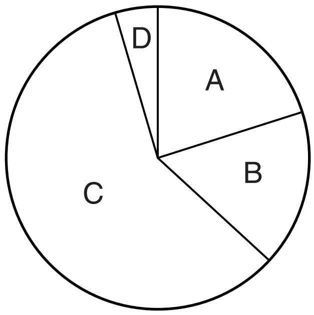
It charges commission at a rate of 2% payable in £ (pounds).

A tourist wishes to change £200. How many Malaysian Ringits will the tourist receive?

Answer (c) RM .... [4]

10

Total expenditure



A Taxes
B Expenses
C Wages
D Dividends

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The pie chart, which is **not** drawn to scale, shows some information about the total expenditure of a company.

The total expenditure shown on the pie chart is £600 000.

(a) The angle for the Expenses sector is 60°.

Calculate the Expenses.

Answer (a) £ .... [3]

(b) The expenditure on Wages was £350 000.

Calculate the angle for the Wages sector.

Answer (b) .... [3]

(c) Taxes were paid at 20% of the total expenditure.

Calculate the angle for the Taxes sector.

Answer (c) .... [3]

(d) The expenditure on Dividends was £30 000. Shareholders owned 20 000 shares in the company.

How much did a shareholder with 800 shares receive in dividend?

Answer (d) £ .... [3]

11 (a) A shopkeeper orders goods from a company for delivery on the following dates.

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Date	Value of goods
May 17	£8890
May 24	£2520
May 31	£6000
Jun 7	£3600
Jun 14	£4680

Calculate the date on which a single payment would be equitable.

Answer (a) .... [6]

(b) A company pays its employees in line with the Retail Price Index (RPI).

(i) In 2010 the RPI was 104 and a worker was paid \$780 a month.

Calculate how much the worker was paid in 2011 when the RPI was 106.

Answer (b)(i) \$ .... [3]

(ii) In 2012 the worker was paid \$825 a month.

Calculate the RPI.

Answer (b)(ii) .... [3]