UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

General Certificate of Education Ordinary Level

**COMMERCIAL STUDIES** **7101/02**

Paper 2  Arithmetic

October/November 2005

**2 hours**

Additional Materials:    Answer Booklet/Paper
                        Graph paper (2 sheets)
                        Mathematical tables

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.
If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions in Section A and any **two** questions from Section B.
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.
All working must be clearly shown. It 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**

This document consists of **5** printed pages and **3** blank pages.

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**Section A** (76 marks)

Answer **all** questions in this section.

1   Calculate

   **(a)** 1600 m as a fraction of 3 km, giving your answer in lowest terms,                                   [3]

   **(b)** 2.4% of 868 dollars, giving your answer correct to the nearest dollar,                            [3]

   **(c)** $\frac{5}{8}$ of $2.8 million, writing your answer fully in figures.                                        [3]


2   Calculate

   **(a)** the total cost of 5000 writing pads at $1.60 per 100,                                               [3]

   **(b)** the hourly rate of pay of a worker paid £31.50 for working from 0800 to 1230,          [3]

   **(c)** the percentage increase in the price of a CD player which increases from $210 to $225.   [3]


3   **(a)** The exchange rate between the US dollar ($) and the pound sterling (£) is $1.6615 to the £1.

      Calculate

      **(i)** the value of £2000 in $,                                                                           [2]
      **(ii)** the value of $1200 in £, giving your answer to the appropriate degree of accuracy.    [3]

   **(b)** The invoice price of importing a machine is £11540 plus $3\frac{1}{2}$% freight charge. The total invoice price is subject to Value Added Tax charged at $17\frac{1}{2}$% and import duty of 2.7%.

      Calculate the total cost of importing the machine.                                                      [5]


4   **(a)** Calculate the annual rate of Simple Interest paid if £2000 invested for 3 years amounted to £2235 at the end of that period. Give your answer correct to 2 decimal places.          [6]

   **(b)** A keyboard costs $1600. It can be bought by paying a deposit of 15% and borrowing the remainder for 1 year at 15.8% Simple Interest. If the amount borrowed and the interest are to be repaid in 12 equal monthly instalments, calculate the amount of each monthly instalment.                                                                                                    [6]

5   **(a)** A wholesaler offers retailers a trade discount of 15% on purchases valued at £2000.

Calculate how much a retailer must pay for 350 shirts at £8.20 each if $2\frac{1}{2}$% cash discount offered for prompt payment.

**(b)** A retailer sets the selling price of sports shoes at cost price plus 90%. At sale time, the retailer reduces the selling price by 20%.

Calculate the percentage profit on cost price made by the retailer at sale time.   [6]


6   **(a)** The three directors of a company, Ahmed, Baltar and Karim each receive a salary of $42 000. In addition, they share the profits of the company in the ratio 8:7:3. In 2004, Ahmed received total income from the company of $80 000. How much was Karim's total income?   [6]

**(b)** A company bought a van on 1st January 2002 for $32 000. Each year the van depreciated by 30% of its value at the beginning of the year.

Calculate the amount of value lost by the van **during** 2004.   [6]


7   **(a)** A company produces garden furniture. In 2003, the total cost of production was $\frac{4}{5}$ of the value of sales and the company made $54 000 profit.

   **(i)** Calculate the value of sales in 2003.   [3]

   **(ii)** In 2004, the value of sales rose by 12% and the profit rose by $4000.

   Calculate the total cost of production in 2004.   [3]

**(b)** A small retail outlet opens for 6 days per week. The table below shows the value of sales for each day, Monday to Friday, during one week.

| Day | Mon | Tues | Wed | Thurs | Fri |
|-----|-----|------|-----|-------|-----|
| Value of sales in $ | 90 | 104 | 110 | 100 | 126 |

   **(i)** Calculate the average daily sales for the 5 days.   [3]

   **(ii)** Including the sales for Saturday, the average daily sales for the whole week are $140.

   Calculate the value of sales for Saturday.   [3]

**Section B** (24 marks)

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

8 **(a)** Shares in the Zedex Company are priced at 18.6p per share.

Calculate the total cost of buying 2400 shares in the company if broker's commission is 1.75%. [4]

**(b)** Shares in the Delene Company are priced at 18p per share and pay a dividend of 1.4p per share.

Shares in the Xeon Company are priced at 75p per share and pay a dividend of 7.8p per share.

Calculate which company produces the better return and by how much on an investment of £4500 (ignore any commission). [8]

9 **(a)** The price of a meal in the Dorkus restaurant in 1999 was £30. To allow for inflation and increased costs, the restaurant raised the price of the meal year on year by 8%.

Calculate

**(i)** the price of the meal in 2004, [4]

**(ii)** the overall percentage increase in the price. [2]

**(b)** With 1999 as 100, the Retail Price Index (RPI) for commodity X in 2000 was 194 and in 2004 was 201.

Calculate the percentage increase in the price of the commodity between 2000 and 2004. [6]

10 The total value of sales made by a retailer in 2004 was £216 840. The cost of the goods sold by the retailer was 35% of the value of sales. In addition, the retailer had expenses as follows:

| | |
|---|---|
| Salaries | £80 000 |
| Rent | £9 500 |
| Sundries | £11 450 |

Calculate

**(a)** the retailer's gross profit as a percentage of cost price, [6]

**(b)** the retailer's net profit as a percentage of sales, [4]

**(c)** the amount of tax to pay on net profit at 27p in the £1. [2]

11 **(a)** In 2003, Mahmet paid £240 for car insurance. This amount was net of a 40% 'no claims discount'.

**(i)** Calculate the full cost of the car insurance.

**(ii)** In 2004, the cost of car insurance before 'no claims discount' increased by 15% but 'no claims discount' increased to 45%.

Calculate how much Mahmet paid in 2004. [3]

**(b)** The table below shows the premium charged to insure £20 000 worth of household contents by seven insurance companies.

| Insurance company | Premium (£) |
|---|---|
| A | 72 |
| B | 92 |
| C | 89 |
| D | 87 |
| E | 89 |
| F | 83 |
| G | 88 |

**(i)** Calculate the median price and the mode price. [2]

**(ii)** Calculate the premium per £1000 insured charged by Company F. [2]

**(iii)** Calculate the total premium charged by Company F to cover household contents worth £85 000. [2]

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