

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

COMMERCIAL STUDIES

7101/02

Paper 2 Arithmetic

October/November 2006

2 hours

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

READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet. Write your Centre number, candidate number and name on all the work you hand in. 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. 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

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.

This document consists of 6 printed pages and 2 blank pages.



Section A (76 marks)

Answer **all** questions in this section.

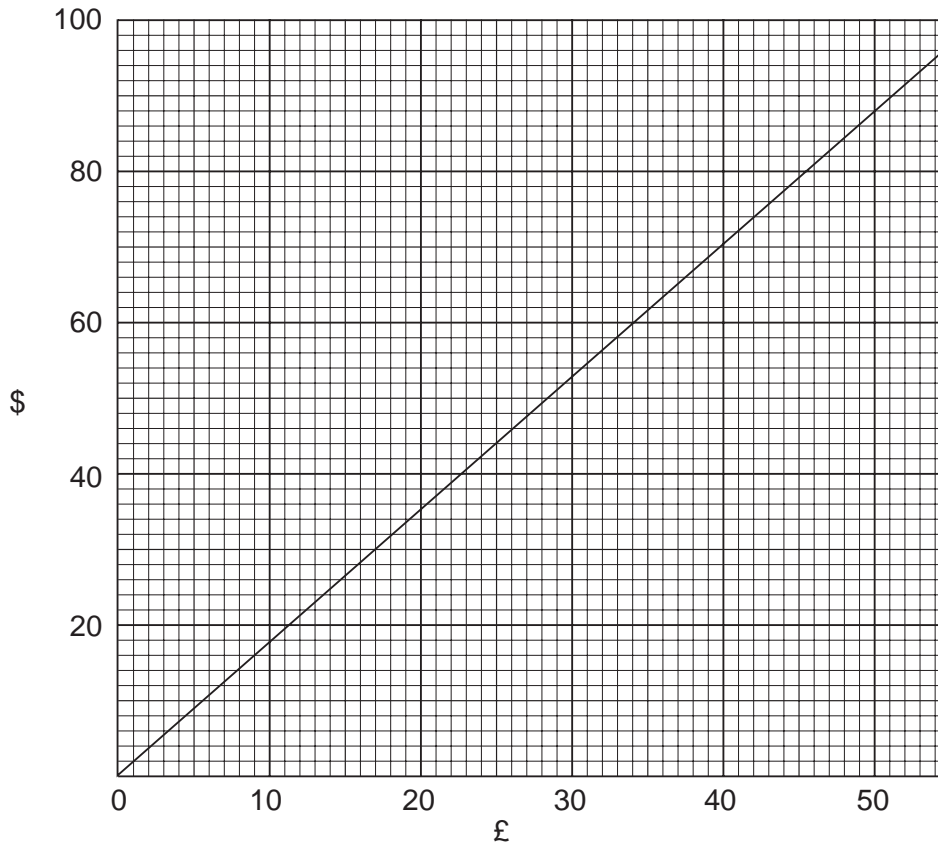
- 1 (a) Calculate the difference between \$2.06 million and \$1.375 million, giving your answer
- (i) in millions, [2]
 - (ii) fully in figures. [1]
- (b) An empty wagon weighs 17.4 tonnes. It is loaded with 40 boxes each weighing 85 kg.
- Calculate the total weight of the wagon and its load. [3]
- (c) A supermarket opens from 08.30 to 22.00 on each of six days of the week and from 10.00 until 15.45 on the seventh day. For how many hours in a week is the supermarket open? [3]
- 2 (a) Write $37\frac{1}{2}\%$
- (i) as a fraction in lowest terms, [2]
 - (ii) as a decimal. [1]
- (b) Calculate the annual rate of Simple Interest if an investment of £2400 for 1 year earns £84 interest. [3]
- (c) A retailer sells a cooker for \$243. This price includes profits of 35% on the cost price of the cooker.
- Calculate the cost price. [3]
- 3 (a) A group of people were asked whether or not they watched a certain television channel. $\frac{2}{5}$ of the group said they watched every day, $\frac{3}{7}$ of the group said they watched sometimes and the remaining 12 people said they never watched.
- Calculate the number of people in the group. [5]
- (b) A charity organisation collected an average of £2840 per month for the first eleven months of the year.
- How much did the organisation need to collect in the next month to achieve a monthly average for the whole year of £3000? [5]

- 4 (a) The total bill for a car repair was made up of **three** costs – cost of parts, cost of labour and cost of tax in the ratio 5:11:3.

Calculate

- (i) the cost of parts for a repair costing \$285, [3]
 (ii) the cost of labour for a repair if the cost of the tax was \$31.20. [3]

- (b) The graph below can be used to convert between Pounds Sterling (£) and US dollars (\$).



Use the graph

- (i) to find the value of £36 in \$, [1]
 (ii) to calculate the value of \$8000 in £, [3]
 (iii) to calculate the rate of exchange in terms of dollars to the pound. [2]

- 5 (a) On January 1, 2004, an office worker received a salary of \$12000 per year. Each year, on January 1, the office worker received a salary increase of 4% of the previous year's salary.

Calculate the salary increase due on January 1, 2007, correct to the nearest cent. [6]

- (b) A sales representative is paid \$3200 per month plus commission of 8% on monthly sales greater than \$25 000.

Calculate the monthly sales when the representative's total salary was \$4080. [6]

- 6 (a) Calculate the amount of interest earned by \$30 000 invested for 5 years at 6% per year Compound Interest. [6]

- (b) A company bought a new machine for \$46 000. The table below shows the value of the machine at the beginning of each of the next four years.

| | |
|----------------------|----------|
| Value of new machine | \$46 000 |
| Value after 1 year | \$27 600 |
| Value after 2 years | \$19 320 |
| Value after 3 years | \$14 490 |
| Value after 4 years | \$11 300 |

Calculate the rate of depreciation of the machine

- (i) in its first year, [3]

- (ii) in its third year. [3]

- 7 (a) A retail company had turnover of £1 097 646 on purchases of £640 200. The company's expenses were wages £53 640, rent £6420 and sundries £12 046.

Calculate

- (i) the company's gross profit, [2]

- (ii) the company's net profit as a percentage of turnover. [4]

- (b) In one month, a trader made 22% net profit on the cost of goods purchased. The trader's expenses of \$480 were 8% of the cost of goods purchased.

Calculate the trader's turnover for the month. [6]

Section B (24 marks)

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

- 8 (a)** The table below shows the premiums charged by seven insurance companies for buildings insurance and for contents insurance.

| Company | A | B | C | D | E | F | G |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Premium per £1000 insured buildings | £4.60 | £4.30 | £4.30 | £5.10 | £4.65 | £4.75 | £4.30 |
| Premium per £100 insured contents | £1.05 | £0.85 | £1.10 | £0.90 | £0.85 | £0.85 | £0.95 |

Calculate

- (i) the mode premium for buildings insurance, [1]
 (ii) the median premium for contents insurance, [1]
 (iii) the total cost of premiums charged by Company C to insure buildings valued at £350 000 and to insure contents valued at £83 000. [4]

- (b)** Allay Insurance Company charges a premium of £450 for car insurance, less 'no claims discount' of 60%.

Bejay Insurance Company charges a premium of £490 for car insurance, less 'no claims discount' of 65%.

Which company charges least and by how much when full 'no claims discount' is applied? [6]

- 9 (a)** An investor bought 2400 shares in the Xenda manufacturing company at 58.4p per share. The stockbroker charged commission of $2\frac{1}{2}\%$.

- (i) Calculate the total cost to the investor of buying the shares. [4]
 (ii) When the company declared a dividend on the shares, the investor received a dividend of £86.40.

Calculate the dividend per share paid by the company. [2]

- (b)** An investor wishes to spread an investment of \$204 000 among three companies Ultra, Vemax and Watwat. He invests three times as much in Vemax as in Ultra. He invests twice as much in Watwat as in Vemax and Ultra together.

Calculate how much he invests in Vemax. [6]

- 10 (a)** A trader agreed repayment terms for goods bought on credit as follows.

| | |
|-----------|--------|
| July 1 | £750 |
| July 16 | \$750 |
| August 2 | \$1000 |
| August 20 | \$800 |

Calculate the date on which a single payment of \$3300 would be equitable. [6]

- (b)** A second trader bought goods valued at \$2850 from the wholesaler. She was allowed 16% trade discount and $1\frac{1}{2}\%$ cash discount for prompt payment.

Calculate the amount paid by this trader when paying promptly. [6]

- 11 (a)** At sale time, a clothing retailer reduced the prices of all clothing by 15%. On the final day of the sale, the retailer reduced the sale prices by a further \$25.

Calculate the total percentage reduction in the price of a jacket bought on that day for \$111. Give your answer correct to the nearest whole percentage. [6]

- (b)** To calculate the selling price of her goods, a market trader adds 60% to the cost price of the goods. As a special offer, she reduced the selling price of a dress by 30%.

Calculate the trader's percentage profit on cost price of the dress. [6]

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