

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

**COMMERCIAL STUDIES**

**7101/02**

Paper 2 Arithmetic

October/November 2004

**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**

**Section A** (76 marks)Answer **all** questions in this section.**1** Calculate

- (a) the cost of 24 pens at \$6 for 9 pens, [3]
- (b) \$3900 as a percentage of \$65 000, [3]
- (c) how much a worker earns for working for  $8\frac{1}{4}$  hours per day for 5 days at \$8.72 per hour. [3]

**2** Convert

- (a)  $\frac{6}{17}$  to a decimal correct to 3 decimal places, [3]
- (b) 296 miles to kilometres, correct to the nearest 10 miles (1 kilometre = 0.625 miles), [3]
- (c) 600 Euros (€600) to pounds sterling (£) when the exchange rate is €1.556001 to the £1, answering to the nearest penny. [3]

- 3** (a) The cash price of a computer is \$2240.  
The credit sale price is 15% deposit plus 12 monthly instalments of \$183.55.  
What is the difference between the cash price and the credit sale price? [5]
- (b) A trader bought 40 televisions for \$185 each and sold them at a price to make 35% profit on each television.  
Calculate the trader's total profit when all the televisions were sold. [5]

- 4** (a) A salesman is paid a basic salary of \$19 200 per year plus commission of 3% on the value of sales above \$20 000 per month.  
Calculate the salesman's total pay for a month when the value of sales was \$28 100. [6]
- (b) Table 1 shows the annual profit, in \$ millions, made by a company for the years 1998–2002 inclusive.

Year	1998	1999	2000	2001	2002
Profit (\$ million)	2.1	2.08	2.41	2.44	2.31

**Table 1**

- (i) Write the profit for 1999 fully in figures. [1]
- (ii) Calculate the mean annual profit for the five years. [2]
- (iii) For the six year period, 1998–2003 inclusive, the mean annual profit was \$2.4 million.

- 5 (a) Calculate the compound interest earned by investing \$43 000 for 4 years at  $6\frac{1}{2}\%$  compound interest.
- (b) An insurance company charges an annual premium of \$36.20 per \$10 000 for buildings insurance and \$48.50 per \$5000 for contents insurance.
- Calculate the total premium required to insure buildings valued at \$245 000 and contents valued at \$146 000. [6]

- 6 The total share issue of a company is owned by three shareholders. Adam owns 5000 shares, Bazlan owns 4500 shares and Gillin owns 8500 shares. All profits are shared in proportion to the shareholdings.
- (a) Calculate, in simplest terms, the ratio of the shareholdings. [2]
- (b) Calculate Adam's share of the first year profits when Bazlan's share was \$18 540. [4]
- (c) At the beginning of the second year, Gillin bought  $\frac{3}{10}$  of Adam's shares and  $\frac{2}{5}$  of Bazlan's shares.
- Calculate what fraction of the shares was now held by Gillin. [6]

- 7 (a) A trader had turnover of \$368 250 on stock bought for \$180 600. The trader's overheads were \$9600.
- Calculate
- (i) the trader's gross profit, [2]
- (ii) the net profit as a percentage of turnover. [4]
- (b) The turnover of a retail business in 2002 was \$556 200. This was a 35% increase on turnover in 2001.
- (i) Calculate the turnover in 2001. [3]
- (ii) With 1995 as 100, the Retail Price Index (RPI) for 2002 was 180 and the RPI for 2003 was 194.
- Calculate the turnover required in 2003 for the 2003 value of turnover to equal the 2002 value. [3]

**Section B** (24 marks)

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

- 8 An investor bought 8000 shares in Company P at 31.2p per share. The broker made a commission charge of  $1\frac{1}{2}\%$ .
- (a) Calculate the investor's total outlay in buying the shares. [3]
- (b) Calculate the investor's income from the investment when a dividend of 2.8p per share was declared. [2]
- (c) Calculate how much interest the investor's outlay would have earned in 6 months at 4.4% per year simple interest. [3]
- (d) The investor received £1568 when selling the shares after paying 2% commission charge on the sale.

Calculate the price per share at which the shares were sold. [4]

- 9 (a) A market trader paid \$350 for 20 blankets. She sold 16 of the blankets for \$26 each. She sold the remaining blankets at a price to give her an overall profit of 40% on her total outlay.

Calculate the selling price of each remaining blanket. [6]

- (b) A retailer buys skirts from a wholesaler for \$23 each and sells them for \$31.90 each.

When the wholesaler increases the price to the retailer by 20%, the retailer increases the selling price so that her percentage profit on cost price remains the same.

Calculate the new selling price of a skirt. [6]

- 10 (a) A selling agent charges commission as shown in Fig. 1 below.

<p>2% on the first \$100 000 of value of goods sold</p> <p>1% on the next \$80 000 of value of goods sold</p> <p><math>\frac{1}{2}\%</math> on any remaining value over \$180 000</p>
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**Fig. 1**

The agent sold goods to the value of \$216 000. How much did the owner of the goods receive for the goods sold? [6]

- (b) A wholesaler allows trade discount of 10% and cash discount of  $1\frac{1}{2}\%$  for accounts settled within 7 days.

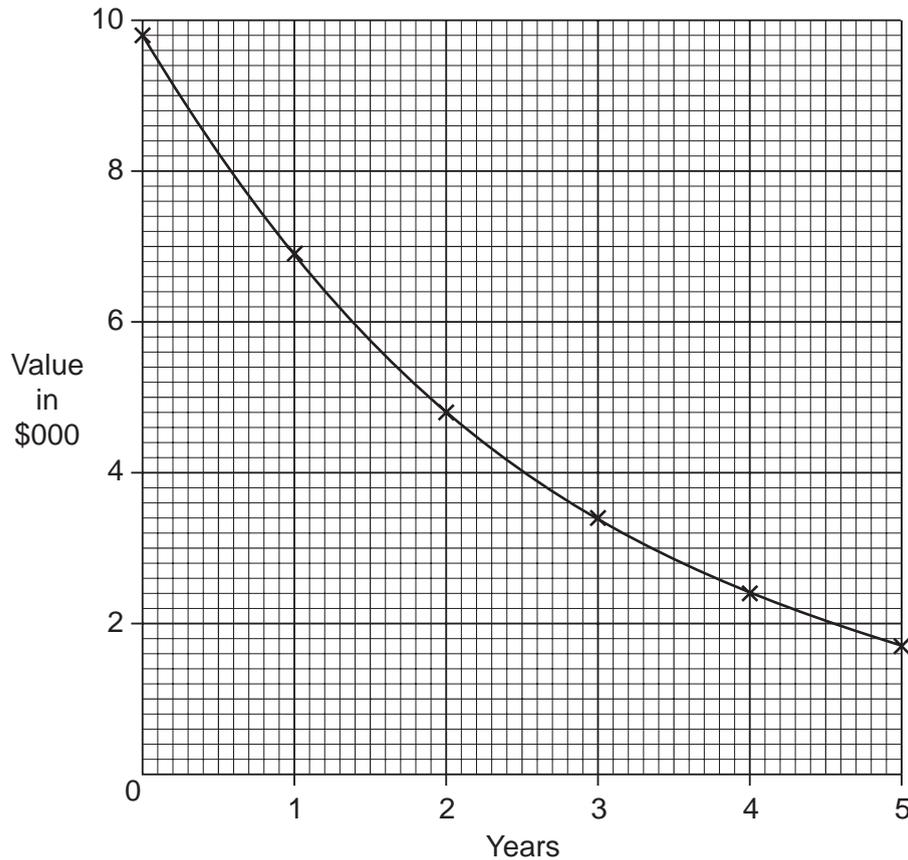
Calculate the price paid by a retailer for goods marked at \$132 300 if the account is settled within 7 days. [6]

11 (a) A 3 year old car was sold for \$4650. This was 70% less than its price when new.

- (i) Calculate its price when new.
- (ii) During the 3 years, the car had been driven for 36 540 kilometres. Petrol, repairs and taxes during that time had cost \$2711.

Calculate the cost per kilometre, including depreciation, of running the car during the 3 years. [4]

(b)



The graph shows how the value of a machine depreciated over a 5 year period.

- (i) Give the value of the machine when it was new. [1]
- (ii) Give the value of the machine after 1 year. [1]
- (iii) Give the amount by which the machine depreciated during the 4<sup>th</sup> year. [1]
- (iv) State after how long the machinery became worth less than \$3000. [1]
- (v) Calculate the total depreciation of the machine as a percentage of its original value. [2]





