

**Pearson LCCI**

# **Certificate in Advanced Business Calculations Level 3**

Thursday 8 June 2017

**Time: 3 hours**

Paper Reference

**ASE3003**

**You must have:**

An answer book

## **Instructions**

- Do **not** open this examination paper until you are told to do so by the supervisor.
- Use **black/blue** ink or ball-point pen
  - *pencil can only be used for graphs, charts, diagrams, etc.*
- Ensure your answers are written clearly.
- Begin your answer to each question on a new page.
- Write on both sides of the page.
- All answers must be correctly numbered but need not be in numerical order.
- If you need more space, use the additional sheets provided. Write your name, candidate number and question number on each sheet and attach them to the inside of your answer book. State, on the front of your answer book, the number of additional sheets attached.
- Answer **all** questions.
- Workings must be shown.

## **Information**

- The total mark for this paper is 100.
- There are eight questions in this question paper.
- The marks for **each** question are shown in brackets
  - *use this as a guide as to how much time to spend on each question.*
- You may use mathematical and statistical tables.
- You may use a calculator provided the calculator gives no printout, has no word display facilities, is silent and cordless. The provision of batteries and their condition is your responsibility.

## **Advice**

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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**Answer ALL questions.**

- 1** A bank successfully tenders £983,000 (pounds sterling) for a £1,000,000 Treasury bill that runs for three months and is to be redeemed at par.

(a) Calculate the rate of **simple interest** per annum earned on the investment in the Treasury bill.

(4)

Josephine suggests that the interest is equal to a rate of **compound interest** per annum of 7.5%.

(b) Use the **compound interest** formula to calculate the interest for three months on £983,000 at 7.5% per annum.

(3)

(c) Calculate the rate of **compound interest** per annum for an investment of £983,000 to produce an amount of £1,000,000 in three months. Give your answer to 3 significant figures.

(4)

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**(Total for Question 1 = 11 marks)**

- 2  $3\frac{1}{4}\%$  Government Stock with nominal value RM100 (Malaysian Ringgit) can be bought for RM91. Interest is paid half yearly. A bank invested RM523,250 in the stock.

(a) Calculate the nominal value of the stock purchased by the bank.

(2)

The bank held the stock for  $4\frac{1}{2}$  years.

(b) Calculate the total interest earned over this period.

(2)

The bank purchased 150,000  $6\frac{1}{2}\%$  preference shares (nominal value of RM5) for RM4.85 per share.

(c) Calculate the total cost of the shares.

(2)

(d) Calculate the dividend received each year.

(2)

The bank also purchased units in a unit trust with an offer price of RM74 per unit, and sold the units after  $2\frac{1}{2}$  years at RM83 per unit.

(e) Calculate the increase in price per unit.

(1)

(f) Express this increase as a percentage increase per annum.

(3)

**(Total for Question 2 = 12 marks)**

- 3 Mick the Manufacturer makes microelectronics. One of his products is sold to customers for ¥75 (Japanese Yen) each. His manufacturing costs for this product in a particular period are:

Fixed costs per period                      ¥1,428,000

Variable costs per unit                      ¥54

Calculate, for this product in this period, the:

(a) profit or loss at a level of production and sales of 60,000 units

(4)

(b) level of production and sales to produce a profit of ¥483,000

(4)

(c) break-even point in units per period

(2)

(d) total cost of production at break-even point

(2)

(e) fixed costs per unit at a level of production of 80,000 units.

(2)

**(Total for Question 3 = 14 marks)**

- 4 The following information relates to a retailer's business for the first year of trading in Myanmar Kyat (K).

	K
Sales	393,000
Purchases	264,300
Sales returns	32,000
Purchases returns	27,500
Initial stock value	15,500
Final stock value	13,500

- (a) Calculate the:

- (i) cost of goods sold

(3)

- (ii) gross profit.

(2)

The overhead expenses for the business in the year were 19½% of net sales.

- (b) Calculate the:

- (i) overhead expenses

(2)

- (ii) net profit as a percentage of net sales.

(3)

- (c) Give a brief explanation of the difference between gross and net profit.

(2)

- (d) Calculate the average number of days for which items remain in stock.

(3)

**(Total for Question 4 = 15 marks)**

- 5 The estimated cost and returns, in Singapore Dollars (S\$), for investment Project Alpha are as follows:

	<b>S\$</b>
Initial investment cost	5,750,000
Year 1 net cash inflow	1,500,000
Year 2 net cash inflow	2,000,000
Year 3 net cash inflow	2,000,000
Year 4 net cash inflow	1,500,000

- (a) Calculate the payback period of Project Alpha in years and months.

(4)

- (b) Calculate the net present value of Project Alpha at a discounting rate of 8%, using the following table of discounting factors.

<b>Year</b>	<b>Discounting factor at rate of 8%</b>
Year 1	0.926
Year 2	0.857
Year 3	0.794
Year 4	0.735

(5)

- (c) Advise a potential investor who is considering investing in Project Alpha, giving reasons for your advice.

(3)

Another investor estimates the following figures for Project Beta:

Initial cost of project	S\$5,250,000
Expected life of project	5 years
Total return before allowing for repairs and maintenance	S\$9,000,000
Average cost per annum of repairs and maintenance	S\$225,000

- (d) Estimate the average annual percentage rate of return of Project Beta.

(4)

**(Total for Question 5 = 16 marks)**

- 6 The following figures, in Malaysian Ringgit (RM), apply to the bankruptcy of company W.

	RM
Total assets	125,000
Total liabilities	157,000
Owed to secured creditors	77,000

- (a) Calculate the amount paid to an unsecured creditor who was owed RM2,250

(4)

Following the bankruptcy of a company, an unsecured creditor who was owed RM75,000 was paid RM42,000

- (b) Calculate:

- (i) the rate in the Malaysian Ringgit paid to unsecured creditors

(2)

- (ii) how much was owed to an unsecured creditor who was paid RM35,700

(2)

- (iii) how much was paid to an unsecured creditor who was owed RM27,950

(2)

**(Total for Question 6 = 10 marks)**

- 7 The following is an extract from a depreciation table, in Australian Dollars (AU\$), based on the **equal instalment** method of depreciation.

Year	Annual Depreciation AU\$	Cumulative Depreciation AU\$	Book Value at End of Year AU\$
Initial cost			?
Year 1	?	?	140,000
Year 2	?	?	?
Year 3	?	60,000	?
Year 4	?	80,000	?
Year 5	?	?	?

- (a) Copy and complete the table.

(6)

The following is an extract from a depreciation table, in Australian Dollars (AU\$), based on the **diminishing balance** method of depreciation.

Year	Annual Depreciation AU\$	Cumulative Depreciation AU\$	Book Value at End of Year AU\$
Initial cost			?
Year 1	?	?	192,000
Year 2	38,400	?	?
Year 3	30,720	?	122,880
Year 4	?	?	98,304

- (b) (i) Calculate the rate of depreciation used.

(2)

- (ii) Copy and complete the table.

(4)

(Total for Question 7 = 12 marks)

- 8** An index of production (units) has the following values over the period 2011 to 2015, with 2011 as the base year.

<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
100	97.4	105.3	108.5	103.0

- (a) Calculate these figures as a chain base index. (5)
- (b) State the percentage change in production from 2014 to 2015. (2)
- (c) Calculate the index for 2015 with 2012 as the base year. (2)
- (d) Write your answer to (c) as a quantity relative. (1)

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**(Total for Question 8 = 10 marks)**

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**TOTAL FOR PAPER = 100 MARKS**