

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

20 April 2023 (am)

Subject CB1 – Business Finance Core Principles

Time allowed: Three hours and twenty minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.

- 1** Which of the following explains why companies have systems of internal control?
- A External auditors recommend controls.
 - B Internal controls prevent board fraud.
 - C Staff might make errors or commit fraud.
 - D Stock exchange rules require controls.
- [2]
- 2** In what sense does the stock market serve as a performance monitor of a quoted company?
- A A stock market quotation requires compliance with rules.
 - B Economic variables can have an impact on share prices.
 - C The share price responds to management decisions.
 - D The stock market requires detailed financial statements.
- [2]
- 3** Who should be responsible for the recruitment and appointment of a replacement if a quoted company's finance director resigns?
- A a committee of executive directors
 - B a committee of non-executive directors
 - C the chief executive officer
 - D the non-executive chair
- [2]
- 4** A quoted company has appointed the same individual to serve as both chief executive officer and chair. Why is such an appointment often regarded as undesirable?
- A No one will be in charge of the board.
 - B One person will have too much power.
 - C The individual will be paid too much.
 - D There will be insufficient illness cover.
- [2]
- 5** Peer-to-peer lending enables individuals to make loans through a peer-to-peer lending platform.
- How are lenders' advances protected against default?
- A Lenders can take legal action in the event of default.
 - B Lenders' investments are spread across multiple loans.
 - C Peer-to-peer platforms guarantee against default.
 - D Peer-to-peer platforms require security from borrowers.
- [2]

6 Which of the following explains why tax law often makes a taxpayer's main private residence free from capital gains tax?

- A taxpayers would refuse to pay
- B in order to encourage home ownership
- C not all taxpayers are homeowners
- D the tax could easily be avoided by renting

[2]

7 A company undertaking a major construction project has insured against the risk of accidental injury to construction workers. Which type of risk management does the insurance policy involve?

- A risk acceptance
- B risk avoidance
- C risk reduction
- D risk transfer

[2]

8 Insurance company financial statements require premiums received in respect of future liabilities to be identified and held until the liabilities have expired. Which accounting concept does this reflect?

- A dual aspect
- B going concern
- C matching
- D money measurement

[2]

9 The net asset value per share is calculated using the formula:

$$\frac{\text{Ordinary shareholders' equity} - \text{intangible assets}}{\text{Number of issued ordinary shares}}$$

Which of the following explains why intangible assets are subtracted in the numerator?

- A Intangible assets are generally funded by debt and not equity.
- B Intangible assets are not physical and cannot be touched.
- C Intangible assets are not used to generate operating profit.
- D Intangible assets are unlikely to have value if the company fails.

[2]

- 10** Which of the following describes creative accounting?
- A Figures are biased without breaking the rules.
 - B Financial statements are based on lies.
 - C Innovative accounting rules clarify performance.
 - D New rules are created by lobbying regulators.
- [2]
- 11** The board of a company has asked an actuary to estimate the value of a liability that will appear in the company's financial statements. The actuary has been asked to ensure that the liability remains below \$80 million, otherwise the company will suffer severe penalties.
- Explain the ethical issues arising from this assignment. [5]
- 12** M is an unquoted company with 20 shareholders, none of whom take an active interest in its management. M usually pays an annual dividend that increases in response to inflation. M's board is concerned that the company cannot afford to pay the expected dividend this year because an important piece of manufacturing equipment is due for replacement.
- Explain the impact of suspending the dividend in order to fund the replacement, paying particular attention to the fact that M is unquoted. [5]
- 13** A quoted company, Q, has identified a takeover target in a completely different industry. Q's board believes that the market has under-priced the target company's shares.
- Explain whether it would make sense for Q to proceed with this acquisition. [5]
- 14** Explain why it is necessary for the Global Reporting Initiative to set standards for sustainability reporting. [5]
- 15** An insurance company must account for a substantial estimated liability associated with a recent claim.
- Describe the respective responsibilities of the company's directors and its external auditor with regard to accounting for this liability. [5]
- 16** Describe the importance to the shareholders of the notes to the financial statements in a quoted company's annual report. [5]

- 17** An investment analyst wishes to compare the profitability of two airlines that have very different returns on capital employed (ROCE).

Explain why it would be helpful for the analyst to evaluate the components of the ratio as follows:

$$\text{ROCE} = \text{asset utilisation ratio} \times \text{profit margin.}$$

[5]

- 18** An actuarial consultancy has a budgetary control system that its managing partner claims combines the best aspects of both the top down and bottom up approaches.

Explain why a consultancy would wish to combine these two approaches to setting budgets.

[5]

- 19** The information provided below has been obtained from R's draft financial statements, which have not yet been finalised.

R

**Statement of changes in equity
for the year ended 30 June 2022**

	Share capital	Retained earnings	Total
	<i>\$000</i>	<i>\$000</i>	<i>\$000</i>
Opening balance	1,000	480	1,480
Loss for year		(211)	(211)
Closing balance	<u>1,000</u>	<u>269</u>	<u>1,269</u>

R

**Statement of financial position
as at 30 June**

	2022	2021
	<i>\$000</i>	<i>\$000</i>
Property, plant and equipment	1,864	2,078
Current assets	60	49
	<u>1,924</u>	<u>2,127</u>
Share capital	1,000	1,000
Retained earnings	269	480
Total equity	<u>1,269</u>	<u>1,480</u>
Non-current liability	600	600
Current liabilities	55	47
	<u>1,924</u>	<u>2,127</u>

R is an unquoted company.

The non-current liability is a loan that falls due in seven years. However, there is a restrictive covenant on the loan entitling the lender to seek immediate repayment if the gearing ratio, calculated as $\text{debt}/(\text{debt} + \text{equity})$, ever exceeds 30%. R's board is concerned because this ratio has increased from 29% last year to 32%, which breaches the covenant.

R's property, plant and equipment include a large office building in the business district of a major city. The building was purchased 12 years ago for \$1,100,000 and has never been revalued. The building has been depreciated at 2% of cost each year since its acquisition. The board is considering revaluing the office in order to reduce the gearing ratio.

- (i) Calculate the value that would have to be attached to the office building to reduce R's gearing to 30% as at 30 June 2022. [4]
 - (ii) Explain whether it would be acceptable to revalue the office building in order to reduce the gearing ratio to less than 30%. [5]
 - (iii) Explain how R's board should manage the breached debt covenant, assuming that the office building is not revalued. [6]
 - (iv) Explain the implications for R's shareholders of continuing reported losses. [5]
- [Total 20]

20 T is a truck manufacturer whose board is considering the development of an electrically powered delivery truck for use in cities. The truck will be designed to operate quietly and efficiently on city streets, with none of the emissions associated with diesel-powered vehicles.

T paid \$600 million for the patent rights to use a new type of battery. The shareholders are aware of that investment because it was capitalised as an intangible asset in the most recent published financial statements. No other information has been released.

The next step will be a one-year feasibility study into the remaining technical challenges of developing and manufacturing the truck and the potential demand from customers. The feasibility study will cost \$250 million. If the study's results are disappointing, then the development of the truck will be abandoned and the cost of the patent written off. If the results are satisfactory then T will pay \$4 billion to buy and equip a factory over a four-year period to bring the truck to market at that time. The net present value of that final stage has been estimated at between minus \$2 billion and plus \$10 billion, although that figure is subject to confirmation by the feasibility study. None of this information has been announced by the board. T's current market capitalisation is \$40 billion.

T has a substantial cash balance that is presently deposited in a bank account that pays almost no interest. The board may use some of that balance to pay for the feasibility study. The \$4 billion will require a loan or an injection of equity.

- (i) Discuss, with reference to agency theory, the implications of maintaining secrecy over the feasibility study and prospective investment in launching the truck. [7]
- (ii) Discuss the argument that the decision to proceed with the feasibility study and the subsequent investment in making and launching the truck should be evaluated as a single project. [7]
- (iii) Evaluate the argument that the cost of funding the feasibility study would be close to zero because it would use an existing cash balance. [6]

[Total 20]

END OF PAPER