# INSTITUTE AND FACULTY OF ACTUARIES

# EXAMINATION

06 May 2020 (am)

## Subject CB1 – Business Finance
## Core Principles

Time allowed: Three hours and fifteen minutes

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

 

**1** Why would the directors of a quoted company spend more than necessary on their external audit?

A Auditors are greedy and will overcharge if they can.
B Company directors do not understand the pricing of audit services.
C Finance directors are frequently recruited from the external audit firm.
D To signal that the financial statements are credible in the face of agency concerns.

[2]

**2** How can the directors of quoted companies deal with the different risk preferences of the many shareholders who have invested in their companies?

A By aiming to maximise market capitalisation
B By maximising expected returns, regardless of risk
C Through minimising risk as much as possible
D By seeking feedback from shareholders.

[2]

**3** Which of the following would be a suitable duty for a non-executive director?

A Development of a business plan to support application for bank funding
B Participation in the selection of executive directors
C Selection between major mutually exclusive projects
D Selection of the principal supplier for key raw materials.

[2]

**4** An actuary has prepared a computer model to simulate a complex project's outcome. The model's logic has been reviewed carefully. The following table shows the simulation results.

| *Number of runs* | *Average net present value* |
|---|---|
| 5,000 | +$50 million |
| 10,000 | –$70 million |
| 20,000 | +$2 million |

What should be concluded from these results?

A Projects should not be evaluated on the basis of simulations.
B The decision to proceed should be based on the return of +$2 million.
C The required rate of return has been set too high.
D The simulation needs to be run many more times.

[2]

**5** A company has $10 million available for investment. It is considering investing in three individual investment projects:

| | *Initial investment* | *Net present value* |
|---|---|---|
| Project One | $4 million | $9 million |
| Project Two | $2 million | $3 million |
| Project Three | $7 million | $11 million |

What would be the opportunity cost of investing in Project One?

A $2 million
B $5 million
C $11 million
D $14 million.

[2]

**6** The directors of a company are considering investing in a machine that will cost $38 million. The machine will have a useful life of 5 years. The cost of capital is 10% p.a.

The directors have determined that the annual capital charge of this machine is $10 million. The machine will generate revenues of $14 million and will require annual running costs of $1.5 million.

Which of the following statements is correct?

A The annual capital charge method indicates that the company should invest in the machine because it will increase shareholders' wealth.
B The annual capital charge method indicates that the company should invest in the machine, but it does not indicate that the investment will increase shareholders' wealth.
C The annual capital charge method indicates that the company should not invest in the machine because doing so will reduce shareholders' wealth.
D The annual capital charge method indicates that the company should not invest in the machine, even though the investment will increase shareholders' wealth.

[2]

**7** Why would the directors of a quoted company pay close attention to the company's draft financial statements?

A The directors are unlikely to understand the financial statements.
B The external auditor cannot be trusted to check the draft financial statements properly.
C The information obtained from the company's internal management accounts is unreliable.
D The shareholders will use the financial statements to evaluate the directors' stewardship.

[2]

**8** A quoted company made a significant bond issue. Which of the following statements is correct?

A The company's beta coefficient will remain unchanged after the bond issue, until the passage of time indicates whether beta has increased or decreased.
B The company's beta coefficient will increase after the bond issue.
C The company's beta coefficient will decrease after the bond issue.
D The company's beta coefficient will only change if the company continues to earn taxable profits after the bond issue.

[2]

**9** How should an investor evaluate a security that has a beta value of zero?

A The security has zero risk.
B The security has an extremely high risk.
C The security offers a return that is not affected by movements of the market as a whole.
D The security offers a zero return.

[2]

**10** Which of the following best explains the fact that a consolidated statement of financial position does not show a figure in respect of non-controlling interest?

A All of the subsidiaries are wholly owned by the parent company.
B None of the subsidiaries were acquired as going concerns.
C The group has no associated undertakings.
D The parent company has a widespread shareholding.

[2]

**11** Explain the role of share prices in managing the behaviour of the directors of quoted companies. [5]

**12** The directors of ABC, a manufacturing company, evaluate projects using the payback method. The directors are reluctant to switch to the net present value criterion and are justifying their reluctance on the basis that the company has grown steadily since it was founded 20 years ago.

Describe the relevance of the payback criterion to ABC. [5]

**13** Explain the most appropriate ways of mitigating the reputational risks associated with manufacturing and selling unhealthy food products, such as sweets. [5]

**14** International Accounting Standards identify relevance as a desirable characteristic for accounting information.

Describe whether accounting for property, plant and equipment at historical cost less depreciation results in a valuation that lacks relevance. [5]

**15** The United Nations defines sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’.

Describe the difficulties associated with preparing a useful sustainability report for a quoted company. [5]

**16** Describe the relevance of International Financial Reporting Standards (IFRS) to external auditors. [5]

**17** An actuarial consultancy has prepared a cash flow forecast that shows that its bank overdraft will increase steadily for 6 months, reaching a final figure of $87,000. Fees from scheduled work will then start to flow in and the overdraft will decrease steadily for 6 months until it is cleared. Unfortunately, the consultancy’s overdraft limit is $50,000.

Explain how the consultancy should deal with its expected cash flows. [5]

**18** A private company’s directors collectively own 100% of the company’s share capital. For the past 3 years the company has paid an annual dividend equal to the annual profit after tax.

Describe the implications of this dividend policy. [5]

**19** Parent is a major quoted financial services company. It has a wholly-owned subsidiary (Sub) that provides actuarial services to the other companies in the group. Sub employs 94 qualified actuaries, plus 110 support staff. These numbers include 18 senior managers who are responsible for Sub's management. Sub operates from an office space within Parent's head office.

Sub's annual running costs are approximately $20 million, including an annual internal charge of $2.5 million made for the use of the office space.

Sub's senior management team has held an initial meeting with Parent's Board to discuss the possibility of a management buyout of the subsidiary by its senior managers. Parent's Board has agreed, subject to the following terms:

- The senior management team would pay $4 million for Sub.
- Sub would continue to provide all of Parent's actuarial services under contract for 4 years, at an annual fee of $16 million. That contract would be renegotiated at the end of year 4.
- Sub would be permitted to remain in the office space for 18 months without charge but would be required to vacate the space at the end of that time.
- Sub would retain all the IT equipment and office furniture.

The senior management team could raise $1.8 million by investing $100,000 each from their personal savings and by remortgaging their homes. They will each take equal shares in the company and will retain 100% ownership between them.

(i) Discuss the advantages and disadvantages of this management buyout arrangement to Sub's senior management team. [8]

(ii) Describe the advantages and disadvantages of this management buyout arrangement to Parent. [6]

(iii) Discuss whether it would be preferable to permit Sub's other employees to buy shares in the company. [6]

[Total 20]

**20** Vonder is a major quoted company that manufactures tyres. The company's annual report for the year ended 30 June 2020 was released yesterday. The following summary was included in the business pages of this morning's newspapers:

| | *Current year* *$ billion* | *Last year* *$ billion* |
|---|---|---|
| Operating profit | 48 | 44 |
| Book value of equity | 362 | 351 |
| Market capitalisation of equity | 447 | 427 |
| Non-current liabilities | 350 | 240 |

The newspaper article referred to the fact that the figures take account of a new factory that cost Vonder $150 billion when it took possession in May 2020. The purchase was paid for using debt that was raised on the date of acquisition.

Vonder's CEO is concerned that the company's shareholders will misunderstand the company's Return On Capital Employed (ROCE) for the year ended 30 June 2020.

(i) Explain the relevance of the book value and the market capitalisation of equity for the calculation of Vonder's ROCE. [8]

(ii) Discuss the implications of the investment in the new factory for Vonder's ROCE. [7]

(iii) Discuss the implications of a misunderstanding of ROCE for Vonder's share price. [5]

[Total 20]

## END OF PAPER