INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

22 April 2013 (am)

Subject SA5 – Finance
Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt both questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

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 Green Envy Vineyards is a small UK wine making business that sells English made sparkling wine in both the UK and France. Green Envy is listed on a small UK stock exchange.

Green Envy has a business loan secured against property. The interest rate on the loan is linked to LIBOR. The retail bank lender has suggested that Green Envy should purchase a swap to effectively convert the loan repayments into fixed repayments.

(i) (a) Describe the risks mitigated and the risks introduced by the swap.
(b) List the questions that Green Envy should ask about the swap. [5]

(ii) Outline the likely affect of the swap on Green Envy's net profit. [3]

An industrial accident has happened at work with the machine that inserts corks into the wine bottles. The process includes manual intervention to secure the wire that holds the cork in place. An operator suffered an injury as the cork exploded from the bottle whilst the wire was being fastened.

(iii) Describe strategies for preventing future accidents happening with this apparatus, using Haddon's energy release theory for accidents. [7]

(iv) Describe the calculation of the operational risk capital required to provide for the cost should the accident happen again. [5]

Green Envy needs a new machine to insert the corks into the wine bottles. It can either buy the machine outright for £200,000 or enter into a full service lease for the machine for £75,000 per annum for five years.

(v) State with reasons whether Green Envy should purchase or lease the new machine. Your answer should include your calculations and any assumptions that you make. [10]

Green Envy is considering expanding its French business by setting up production facilities there. To do so, Green Envy will likely need both additional bank loans and more trade credit.

(vi) Outline ways in which Green Envy's credit score will be determined. [4]

(vii) List eight services that the retail bank may supply, identifying those which will be particularly useful to Green Envy and its plans. [5]

(viii) Explain why Green Envy may need to approach a wholesale bank. [2]

(ix) Explain which factors of the French economic situation will affect Green Envy's considerations. [4]

The managing director and part owner of Green Envy has become ill and decided to leave Green Envy. He will pass operational control on to his son in the near future and intends to sell his shares.

(x) Explain how he should behave in order to comply with the Market Abuse Directive. [3]
[Total 48]

2 Planut Capital Partners is a long established private equity fund manager. Its current funds under management total US$50bn.

Permacover Insurance is a long established general insurance company operating in the UK. It underwrites a wide range of commercial risks including property, motor and liability. It has several thousand policyholders operating across all industries and spread across the UK. Permacover's shares are listed on the UK's main stock exchange and are widely held. Permacover's key financial information is as follows:

Financial Information for the year ended 31 Dec, 2012	*£m*
Investments at fair value	0
Cash and cash equivalents	900
Net technical provisions	500
Total shareholders' equity	400
Net earned premium	250
Net acquisition costs	50
General and administration expenses	50
Net profit before tax	40

Shareholder Information	
Return on equity	7.5% per annum
Number of issued ordinary shares	100,000,000
Current share price	£2.80
Ten year average return on equity	8.0% per annum

Note 1: Net technical provisions are made up of net undiscounted outstanding claims liabilities (£375m) and net undiscounted unearned premium reserves (£125m). They provide for the estimated cost of future claim payments including claims related expenses.

Note 2: Permacover's anticipated reinsurance recoveries from future claim payments total £10m.

Planut is considering buying all of the shares of Permacover and de-listing it. Planut believes that it can make some operational changes to Permacover, re-list it in approximately three years' time and make a return in excess of 20% per annum compound on its invested capital (collectively referred to below as the transaction).

(i) (a) Suggest an action that Planut might take prior to launching a takeover bid for Permacover in an attempt to enhance its transaction return.

(b) State likely capital market regulatory constraints in this situation.

(c) Estimate the profit that Planut might be able to make from the action taking into account these constraints.

[4]

Planut approaches Permacover and announces its intention to offer to purchase all of Permacover's ordinary shares at a price of £3.50, compared with the current price of £2.80. Permacover's board announces to its shareholders that it is rejecting the bid as it believes that its shares are worth more than £4.00.

(ii) Explain the board's reasoning for rejecting the bid. [2]

(iii) Suggest two actions that the board might now take to try to stop Planut purchasing its shares. [2]

Planut's interest in the transaction is based on a number of considerations.

(iv) List three constraints in setting the appropriate level of Permacover's capital. [3]

(v) Outline the considerations that Planut would have made when estimating Permacover's regulatory capital requirement under Solvency II. [7]

(vi) State with reasons whether Permacover is likely to have surplus regulatory capital under Solvency II. [3]

(vii) Outline operational changes that could be introduced to reduce Permacover's future operating expenses and acquisition costs. [3]

Planut is considering using Permacover's reputation, expertise and infrastructure to expand the business rapidly both in terms of the types of business written and the customer base, including expanding overseas.

(viii) Describe the likely consequences of the business expansion on Planut's transaction return. [3]

Planut intends to increase investment returns dramatically by investing the majority of the investible funds in high yield debt securities, mortgage backed securities and asset backed securities. Planut also intends to separate the non-cash investments into three equal sized currency baskets, namely North America, Western Europe and emerging markets.

(ix) Discuss:

(a) The risks that the new investment policy would create or change in Permacover.

(b) The likely consequences of the new investment policy for Permacover and its stakeholders.

[8]

(x) Discuss how Planut might leverage its transaction return with debt, including:

- the various types of debt that could be used
- the sources of the debt
- the terms and conditions of the debt
- the estimated improvement to the transaction return [8]

Planut have built an acquisition model. It includes the impact on the transaction return due to capital repatriation, reduced operating expenses and acquisition costs, increased premiums, new business growth, increased investment returns and debt leverage.

(xi) Outline other model assumptions which will significantly impact Planut's modelled transaction return. [4]

(xii) (a) State with reasons whether you believe that Planut can successfully complete the transaction.

(b) Comment on the apparent inconsistency between Permacover's long term average return on equity and the expected transaction return.

[5]

[Total 52]

END OF PAPER