

P97

Diploma in Insurance

Unit P97 – Reinsurance

April 2014 examination

Instructions

- Three hours are allowed for this paper.
- **Do not begin writing until the invigilator instructs you to.**
- **Read the instructions on page 3 carefully before answering any questions.**
- Provide the information requested on the answer book and form B.
- You are allowed to write on the inside pages of this question paper, but you must **NOT** write your name, candidate number, PIN or any other identification anywhere on this question paper.
- The answer book and this question paper **must both be handed in personally by you** to the invigilator before you leave the examination room. **Failure to comply with this regulation will result in your paper not being marked and you may be prevented from entering this examination in the future.**

Unit P97 – Reinsurance

Instructions to candidates

Read the instructions below before answering any questions

- **Three hours** are allowed for this paper which carries a total of 200 marks, as follows:

Part I	14 compulsory questions	140 marks
Part II	2 questions selected from 3	60 marks

- You should answer **all** questions in Part I and two out of the three questions in Part II.
- You are advised to spend no more than two hours on Part I.
- Read carefully all questions and information provided before starting to answer. Your answer will be marked strictly in accordance with the question set.
- The number of marks allocated to each question part is given next to the question and you should spend your time in accordance with that allocation.
- You may find it helpful in some places to make rough notes in the answer booklet. If you do this, you should cross through these notes before you hand in the booklet.
- It is important to show each step in any calculation, even if you have used a calculator.
- If you bring a calculator into the examination room, it must be a silent, battery or solar-powered non-programmable calculator. The use of electronic equipment capable of being programmed to hold alphabetic or numerical data and/or formulae is prohibited. You may use a financial or scientific calculator, provided it meets these requirements.
- Answer each question on a new page. If a question has more than one part, leave six lines blank after each part.

PART I

Answer ALL questions in Part I

Note form is acceptable where this conveys all the necessary information

1. Explain how reinsurance can be used to increase an insurance company's underwriting capacity to accept more business. (8)

2. A factory with an overall sum insured of £100million is offered to an insurer which only wishes to retain £25million for its own account.

Explain, **using an example**, how the insurer might consider accommodating this risk using either reinsurance or co-insurance and compare how these approaches differ. (10)

3. State **six** advantages and **six** disadvantages of facultative reinsurance to an insurer. (12)

4. Explain, **using an example**, the difference between the underwriting year and clean cut methods of accounting for proportional reinsurance treaties. (14)

5. Explain the factors that influence an insurer's decision to select a risk excess of loss treaty for its portfolio of business. (12)

6. An insurance company has a 13 lines surplus treaty with a retention of £50million. Based on its maximum exposure to any one loss event, it is prepared to pay losses of any one risk up to £5million itself, and arranges a per risk excess of loss of £45million in excess of £5million on its net account.
 - (a) Calculate, **showing all your workings**, the apportionment of liability for losses on the following risks:
 - (i) Risk A: Sum insured £120million, gross loss £20million. (6)
 - (ii) Risk B: Sum insured £40million, gross loss £12million. (4)
 - (b) In addition to the losses in part (a)(i) and (ii) above, a third loss of £50million from the same event was notified to the insurer.

Calculate the direct insurer's net loss from the three events in total. (2)

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7. Explain briefly the purpose and use of umbrella excess of loss reinsurance. (6)
8. Outline the information required by reinsurers when underwriting an excess of loss treaty. (15)
9. Explain briefly **four** legal principles that apply to insurance and reinsurance contracts. (12)
10. Explain the purpose and use of an access to records clause. (8)
11. Outline how the following might be affected after a major market loss which involves the reinsurance market:
- (a) Reinsurer's reserves. (2)
 - (b) Reinsurer's return on capital. (2)
 - (c) Reinsurer's terms and conditions of coverage. (2)
 - (d) Reinsurer's estimated maximum loss calculations. (2)
12. (a) Identify **four** issues faced by an underwriter writing a property excess of loss treaty. (4)
- (b) Outline **five** ways a property reinsurer can control its exposure under a catastrophe excess of loss programme. (5)
13. Identify **six** ways accumulations can arise in a products liability portfolio. (6)
14. (a) List **six** causes of loss usually covered by a marine war account. (6)
- (b) Identify the most suitable types of reinsurance to protect a marine war account. (2)

Questions continue over the page

PART II**Answer TWO of the following THREE questions
Each question is worth 30 marks**

15. An insurance company has a 19 lines surplus treaty, with a net retained line of £500,000 on an estimated maximum loss (EML) basis to protect its property account. Results to the reinsurers have been profitable for the last ten years. The insurance company is located in a territory which is susceptible to earthquakes however no important losses from this peril have occurred for several decades.

The insurance company's retention is currently protected by a per risk excess of loss programme as follows:

Layer 1 - £400,000 xs £100,000, 2 reinstatements.

Layer 2 - £500,000 xs £500,000, 1 reinstatement.

The insurance company considers that it is ceding too much profitable premium so at renewal will increase its net retained line to £1million and alter the surplus to nine lines.

- (a) Identify the information required to enable the surplus reinsurers to make a decision about underwriting the revised treaty, explaining the reasons for requiring this information. (8)
- (b) Explain in detail how the insurance company's requirements for per risk excess of loss reinsurance will change. (10)
- (c) State the factors to be considered by the insurance company in determining where to set its net retention. (12)

- 16.** An insurance company buys a catastrophe excess of loss programme for £5million excess of £15million with one reinstatement at 100%.

The cost is 2% of an estimated £20million premium income.
The cover period is 1 January to 31 December.

The insurance company sustains two winter weather losses, the first one on 14 December for which the initial reserve is £18million and the second one on 28 December for which the initial reserve is £22million.

- (a) Calculate, **showing all your workings**, how much reinstatement premium would be payable. (10)
- (b) Calculate, **showing all your workings**, what the reinstatement cost would be if the provision was pro-rata as to time. (10)
- (c) Describe the implications for the reinsurers if the company seeks renewal terms with the reinstatement pro-rata as to time instead of 100%. (10)
- 17.** The XYZ Insurance Company (XYZ) is the captive insurer of a major airline. In addition to participating in its owner's aviation insurance, it has decided to underwrite aviation business from the open market. XYZ requires one reinsurance programme for all its aviation underwriting.
- (a) Outline the risk exposures of XYZ specific to the aviation account. (6)
- (b) Identify the underwriting information required by reinsurers and its application to the proposed reinsurance programme. (14)
- (c) Describe the appropriate methods of aviation reinsurance available to XYZ. (10)

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