

# P97

## Diploma in Insurance

### Unit P97 – Reinsurance

October 2011 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 briefly what a retrocession is and outline the reasons why retrocession is more difficult to underwrite than reinsurance. (10)
  
2. (a) Explain briefly how premiums are calculated for non-proportional business. (4)
- (b) Describe **two** methods by which an excess of loss treaty premium may be adjusted after the treaty expiry. (6)
  
3. The Property Insurance Company insured a factory valued at £20,000,000. It has a line of 100% and determined the estimated maximum loss at 70%. The company purchased £10,000,000 xs £4,000,000 facultative reinsurance cover.  
  
The factory suffered a fire giving rise to a valid claim of £16,000,000. The Property Insurance Company has no other reinsurance on this risk.  
  
Calculate how much is:
  - (a) recovered by the original insured; (1)
  - (b) paid by the facultative reinsurer; (1)
  - (c) paid by The Property Insurance Company net of reinsurance. (2)
  
4. The special termination clause within a reinsurance treaty specifies those circumstances that give the right of immediate termination by either party.
  - (a) State **four** circumstances that give either party the right of immediate termination. (8)
  - (b) State the liability of the reinsurer under a surplus treaty for cessions made prior to the date of termination. (2)
  - (c) Explain how the premium due to reinsurers is calculated when the treaty is terminated prior to expiry under an excess of loss treaty. (2)
  
5. Define claims inflation and explain its significance when considering the claims experience of a liability excess of loss treaty. (6)

6. Outline **two** differences between the reinsurance premium payment for an excess of loss treaty and **two** differences for a proportional treaty. (8)
7. Identify the factors that influence the insurer in deciding the amount of reinsurance cover it requires for its property catastrophe excess of loss reinsurance programme. (14)
8. Identify the main exposures arising from an aviation account and summarise the underwriting information required by the reinsurance underwriter. (14)
9. Discuss briefly the advantages and disadvantages to an organisation forming a captive insurance company to insure the non-life risks of its parent. (14)
10. (a) Explain briefly the purpose of the ACOD/B clause. (4)  
 (b) Define any **one** event under this clause. (2)  
 (c) Explain briefly the differences in legal liability depending on whether it is established on an exposure basis or not. (4)
11. List **eight** different types of risk that are commonly excluded under public liability treaty reinsurance. (8)
12. The Property Insurance Company has the following reinsurance programme in place:
- £300,000 xs £300,000 each and every loss.
  - Reinstatements: two at 100% additional premium pro-rata to amount.
  - Minimum & Deposit premium: £100,000.
- Losses (from ground up) (in chronological order):
- Loss 1: £450,000  
 Loss 2: £400,000  
 Loss 3: £600,000  
 Loss 4: £550,000
- Calculate, **showing all your workings**, the reinstatement premium due after each individual loss and identify the amount of reinsurance coverage remaining after the final loss. (10)

**Questions continue over the page**

13. Tradewinds Insurance Company has a £5,000,000 xs £5,000,000 per risk excess of loss reinsurance in place.

It suffers losses of:

1. £5,000,000
2. £8,000,000
3. £10,000,000

Each loss has associated costs and expenses of £1,000,000.

For each loss, calculate, **showing all your workings**, the recoveries from the reinsurance treaty in addition to the exposures above:

- (a) if the associated costs and expenses form part of the Ultimate Net Loss; (6)
- (b) if the associated costs and expenses are recoverable pro-rata in addition to the limit. (6)
14. (a) Personal accident coverages are benefit policies rather than contracts of indemnity. Explain this statement. (4)
- (b) Explain briefly the **two** main types of accumulation that can occur within a personal accident reinsurance account. (4)

## PART II

Answer TWO of the following THREE questions.  
Each question is worth 30 marks.

15. Explain why an insurance company may purchase reinsurance. (30)

16. The ABC Insurance Company has the following reinsurance programme for its commercial property business:

- Nine lines 1<sup>st</sup> surplus treaty with a maximum total cession of £9,000,000.
- Ten lines 2<sup>nd</sup> surplus treaty with a maximum total cession of £10,000,000.
- The treaty limits are on a sum insured basis.
- Proportional facultative reinsurance is used when additional capacity is required.

The retention of the ABC Insurance Company is scaled in its table of limits according to risk classification from £200,000 to £1,000,000.

The ABC Insurance Company has accepted the following risks and the retention for each is in accordance with its table of limits.

Risk	Sum insured (£)	Retention (£)
A	40,000,000	1,000,000
B	15,000,000	500,000
C	1,000,000	200,000
D	9,000,000	750,000

(a) Calculate how much of **each** risk is ceded to the 1<sup>st</sup> and 2<sup>nd</sup> surplus treaties. (8)

(b) Calculate the requirement for facultative reinsurance for **each** risk. (4)

(c) Risk A suffers a claim of £22,500,000. Calculate the amount recovered from **each** reinsurance arrangement. (6)

(d) Recalculate your answer to part (c) above if the facultative reinsurance for Risk A had been placed on an excess of loss basis. (6)

(e) Explain briefly how facultative reinsurance on proportional basis differs from facultative reinsurance on excess of loss basis. (4)

(f) Explain briefly why surplus reinsurers would prefer proportional to excess of loss facultative reinsurance in terms of premium and claims. (2)

17. Two weeks before the annual renewal of all of ABC Insurance Company's reinsurance treaties, covering Japanese domestic property business, an earthquake and subsequent tsunami cause widespread damage across a large area of Japan. The Japanese insurance industry suffers substantial loss as a consequence.

Discuss how and why this catastrophe may affect the reinsurance markets pricing of ABC Insurance Company's reinsurance treaties for the upcoming renewal and how the upcoming renewal may be affected in 12 months time. (30)

