



Suggested Syllabus and Reading for General Insurance

- Notes: (1) The advanced level syllabus is assumed to include all the standard level topics as a pre-requisite. They may also be examined in greater depth at advanced level.
- (2) The advanced level syllabus would also involve the additional range of topics as set out in the table below.
- (3) The suggested reading is intended to give an indication of the scope and depth of the topics to be examined.

Subject	Standard level	Advanced level (additional items)
<u>1. Working environment</u>		
(a) Size and structure of market	U.K.	Some overseas
(b) Description of products	Limited range of U.K. covers Private Car, Commercial Vehicles, Fleets Employers Liability, Household, Industrial Fire and Contractors All Risks.	Further U.K. covers, as included in the current B3 examination
(c) Organisation of insurers and marketing methods.	U.K.	Outline knowledge of overseas markets
(d) Role of the actuary	U.K.	Some overseas
<u>Reading</u>		
Introductory Monograph by G.B. Hey Documentation Monograph by Hudson & Taylor	All, but some starred All except Appendices, A3, A6, A7, A10, A11, A12 & B.	All All
Guidance Notes on Actuarial Reporting	All, but some starred	All
<u>2. Insurance Companies Legislation</u>		
(a) Historical perspective	U.K.	
(b) Current U.K. legislation and regulations	Principles	Interpretation and use of statutory returns
(c) Supervisory systems and controls overseas		Selected countries

Subject	Standard level	Advanced level (additional items)
<u>Reading</u>		
Statutory Regulation Monograph by W.M. Abbott	All (but section 5 to be starred) of existing monograph	All, including additional section and overseas
Sample Statutory Return	Starred	Yes
<u>3. Accounts, Taxation and Financial Structure</u>		
(a) Basic Accounting principles	Yes	-
(b) Company accounts for direct business, revenue accounts (one/three year), profit and loss accounts and balance sheets.	Elements	Interpretation of results and understanding of implications.
(c) Lloyd's syndicates accounts.	No	Yes
(d) General principles of taxation of general insurance companies	Yes	-
(e) Financing, profitability and solvency of an insurance company, solvency margin and why needed	Yes	-

Reading

Statutory Regulation Monograph

New Monograph - only specified

Taxation Monograph - (R.B. Akhurst)

Details awaited

All

Subject	Standard level	Advanced level (additional items)
<u>4. Principles and Practice of Reinsurance</u>		
(a) Objectives of reinsurance	Outward	Inward
(b) Types of reinsurance	Basic types	Extended list
(c) Organisation and practice of reinsurance market	No	Yes
(d) Reinsurance accounting	Outward	Inward
<u>Reading</u>		
Reinsurance Monograph by G Lyons	Details awaited	All
<u>5. Technical Reserves</u>		
A. One-year accounts		
(a). Unearned Premium Reserve		
(i). alternative methods of calculation and underlying assumptions	Yes	-
(ii). allowance for deferred acquisition costs	Yes	-
(iii). effect of inflation	No	Yes
(b). Additional reserve for unexpired risks	Yes	-
(c). Outstanding Claims reserves		
(i). Known claims	Case-by-case estimating, run off analyses, basic statistical methods, (e.g. chain-ladder, inflation - adjusted chain-ladder, separation, average cost/claim), claims-handling procedures inflation, monitoring results, combined methods with IBNR.	More advanced statistical methods, (e.g. Reid's method) Choosing methods and interpretation of results.

Subject	Standard level	Advanced level (additional items)
(ii). IBNR claims	Methods of calculation, variation between classes, seasonal fluctuations, closing date, monitoring of results.	
(iii). Reopened claims	Yes	-
(iv). Claims expense provision	Yes	-
B. Three-year accounts	No	Yes
5 <u>Reading</u>		
Outstanding Claims Monograph by Ackman, Green and Young		All
New Monograph on Accounts etc. - see 3 above	Details awaited	All
GIRO paper by G Lyons working party	No	All Starred
6 <u>Other Reserves</u>		
A. Catastrophe Reserve		
(a) Why and when required the events involved	No	Yes
(b) Effects of reinsurance	No	Yes
(c) Some considerations in determining size of reserve	No	Yes

Subject	Standard level	Advanced level (additional items)
6. Continued.		
B. Claims Equalisation Reserve	No	Yes
C. Free and Equalisation Reserves		
(a) Need for solvency margin	No	Yes
(b) Need for smooth experience	No	Yes
<u>Reading</u>		
New Monograph on Accounts, etc - see 3 above	No	Yes
<u>7 Premiums</u>		
(a) Examination of statistical analyses to identify risk factors	Yes	-
(b) Methods of calculating the effects of each factor separately where the factors are associated.	Yes	-
(c) Interaction between effects of factors	No	Yes
(d) Experience rating (including NCD)	Basic Ideas	Methods involving credibility theory, Retro-rating techniques
(e) Analysis of expenses	Yes	-
(f) Allocation of expenses between classes/risk groups	Yes	-
(g) Contribution method	Yes	-
(h) Translation of experience data into office premium scales	No	Yes
(i) Methods of obtaining office premiums direct from a portfolio rating review	No	Yes
(j) Conflict between 'Theoretical' and 'Commercial rates'	No	Yes
(k) Risk of adverse selection	No	Yes
(l) Market aspects, including transaction statistics	No	Yes

Subject	Standard level	Advanced level (additional items)
<u>Reading</u>		
New monograph on premiums and expenses Documentation monograph by Hudson & Taylor An actuarial approach to Motor Insurance rating by Coutts (JIA 1984)	Details awaited No No	All Appendix B All
<u>8. Analysis of Profitability</u>		
(a) Comparison of actual claims experience related to premiums	No	Yes
(b) Problems of using actual written premiums on more than one scale	No	Yes
(c) Problems of seasonal and other fluctuations where experience based on earned/incurred over calendar year	No	Yes
(d) Alternative methods (e.g. rating series analysis)	No	Yes
(e) Need to consider absolute and relative profitability	No	Yes
<u>Reading</u>		
New monographs on Premiums/Expenses and Accounts etc.	No	All
<u>9. Extreme-value and associated problems</u>		
(a) Very large claims	No	Yes
(b) Use of standard tables for claims amount to speed up analysis of profitability	No	Yes
(c) Use of reinsurance to eliminate major fluctuations in profit	No	Yes
(d) Retention levels	No	Yes

Subject	Standard level	Advanced level (additional items)
<u>Reading</u>		
Monographs on Reinsurance, Accounts, etc. and Premiums/Expenses	No	All
<u>10. Risks of Insurance Business and their control</u>		
(a) Risk of variation in claims experience; limitation by spread of portfolio and use of co-insurance and reinsurance	No	Yes
(b) Risk of adverse trend in experience, need for early identification and corrective action	No	Yes
(c) Risk of increase in inflation, need to limit exposure to that possibility, balancing the portfolio, investing short	No	Yes
(d) Risk of fluctuations in asset values, matching	No	Yes
<u>Reading</u>		
Various parts of almost all monographs	No	Yes
<u>11. Modelling and Forecasting Applications</u>		
(a) Need for modelling, methodology	No	Yes
(b) Timescale of operations, particularly the impact of rating changes	No	Yes
(c) Allowing for inflation and other factors, e.g. market competition	No	Yes
<u>Reading</u>		
Monographs on Accounts, etc. and Premiums/Expenses	No	Yes