

**Subject ST5**  
**Finance and Investment**  
**Specialist Technical A**

**Syllabus**

for the 2008 Examinations

1 June 2007

**The Faculty of Actuaries and**  
**Institute of Actuaries**

## **Subject ST5 — Finance and Investment Specialist Technical A Syllabus**

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### **Aim**

The aim of this Finance and Investment Technical subject is to instill in successful candidates the ability to apply, in simple situations, the principles of actuarial planning and control to the appraisal of investments, and to the selection and management of investments appropriate to the needs of investors.

### **Links to other subjects**

This subject draws on the issues introduced in Subjects CT2 — Finance and Financial Reporting, CT7 — Economics and CT8 — Financial Economics.

Subject CA1 — Core Application Concepts: covers the general underlying principles affecting all specialisms.

Subjects SA5 — Finance Specialist Applications and SA6 — Investment Specialist Applications: use the principles in this subject to solve complex problems, to produce coherent advice and recommendations within a specifically United Kingdom context.

### **Objectives**

On completion of this subject the candidate will be able to:

- (a) State what is meant by a risk-free rate of return, and describe assets that may be assumed to be risk-free in practical work.
- (b) Describe the typical ways in which investment returns are taxed and the effect of the taxation basis on investor behaviour.
- (c) Describe the principal features of financial statements issued by companies (including pension funds and insurance companies).
- (d) Demonstrate knowledge of the influences over the commercial and economic environment from:
  - central banks
  - main investor classes
  - government policy
- (e) Demonstrate a knowledge of the principles of fundamental share analysis.

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(f) Discuss the different methods for the valuation of individual investments and demonstrate an understanding of their appropriateness in different situations.

- fixed income analytics and valuation (including interest rate swaps and futures)
- arbitrage pricing and the concept of hedging
- empirical characteristics of asset prices
- introduction into fixed income option pricing
- evaluating a securitisation (including CBOs and MBSs)
- evaluation of a credit derivative

(g) Describe methods by which an institution can monitor and control its exposure to the following types of risk:

- actuarial risk
- market risk
- credit risk
- operational risk
- relative performance risk

and explain in the context of mean-variance portfolio theory what is meant by:

- opportunity set
- efficient frontier
- indifference curves
- the optimum portfolio

(h) Demonstrate a knowledge of the principles underlying the legislative and regulatory framework for investment management and the securities industry.

- (i) Discuss the possible goals of the authorities in regulating the investment management and securities industries.
- (ii) Describe the areas which it may be necessary to regulate in order to achieve the goals discussed under (i) above.
- (iii) Discuss the advantages and disadvantages of different possible regulatory regimes for the investment management and securities industries.
- (iv) Discuss the advantages and disadvantages of self regulation in the investment management and the securities industries.

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- (v) Demonstrate how these principles can be applied in the areas of:
- trust law
  - corporate governance
  - role of the listings authority
  - environmental and ethical issues
  - competition and fair trading controls
  - monopolies regulators
  - investment restrictions in investment agreements
  - provision of financial services
  - institutional investment practices
  - EU legislation
  - role and responsibilities of directors
  - development of international accounting standards
- (i) Demonstrate a knowledge and understanding of the theory of finance.
- (i) Demonstrate an understanding of the relationship between finance and the real resources and objectives of an organisation.
- (ii) Discuss the relationship between the stakeholders in an organisation (including lenders and investors).
- (iii) Outline agency theory.
- (iv) Outline the theory of the maximisation of shareholder wealth.
- (v) Discuss the relationship between financial management and entrepreneurialism.
- (vi) Outline the possible motives for mergers and divestitures.
- (vii) Discuss the key findings in behavioural finance.
- (viii) Outline the main steps involved in financial planning.

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- (j) Demonstrate a knowledge and understanding of the characteristics of specialist financial instruments:
- alternative financial instruments available for short-term lending and borrowing
  - corporate debt and credit derivatives
  - swaps and swaptions
  - private debt
  - asset-backed securities, securitisation
  - venture capital
  - hedge funds
- (k) Describe the main types of derivative contract and define their payoffs.
- (l) Show how actuarial techniques may be used to develop an appropriate investment strategy.
- asset pricing models
  - asset / liability modeling
  - asset / liability mismatch reserving
  - credit rating an entity
  - liability hedging
  - cointegration
  - dynamic liability benchmarks
- (m) Analyse the performance of an investment and discuss the limitations of such measurement techniques.
- portfolio risk and return analysis
  - equity price
  - net present value
  - net asset value
  - return on capital
- (n) Describe the construction of investment indices and the principal features of major investment indices.
- (i) Discuss the uses of investment indices.
- (ii) Describe the principal indices of share prices in the United Kingdom, United States, Japanese, German and French stock markets.
- (iii) Explain the problems encountered in constructing property indices.

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- (o) Analyse the performance of an investment portfolio and discuss the limitations of such portfolio measurement.
  - (i) Assess the performance of a portfolio relative to a published market index.
  - (ii) Assess the performance of a portfolio relative to a predetermined bench-mark portfolio.
  - (iii) Analyse the performance of a portfolio into components relating to investment sector selection and individual stock selection.
  - (iv) Discuss the relative merits of assessing portfolio performance relative to published indices, other portfolios or a predetermined bench-mark portfolio.
  - (v) Discuss the uses of risk adjusted performance measures.
  - (vi) Discuss the value of portfolio performance measurement and its limitations.
- (p) Demonstrate a knowledge and understanding of the principal techniques in portfolio management including risk control techniques.
  - (i) Describe and discuss the principal active management “styles” (value, growth, momentum, rotational).
  - (ii) Discuss the principal equity portfolio management techniques.
  - (iii) Discuss the principal bond portfolio management techniques.
  - (iv) Discuss the uses which an institutional investor might make of financial futures and options, including OTC contracts.
  - (v) Discuss the uses which an institutional investor might make of interest rate and currency swaps.
  - (vi) Discuss the uses which an institutional investor might make of forward foreign exchange contracts for currency hedging.
  - (vii) Discuss the usefulness of multifactor models in practical investment management and risk control.
  - (viii) Discuss the problems of making significant changes to the investment allocation of a substantial portfolio.
  - (ix) Transition management and asset allocation techniques (including overlay strategies).

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- (x) Role of the custodian.
- (xi) Portfolio construction with attention to:
  - value at risk
  - tracking error
  - risk budgets
- (xii) Measurement, comparison and attribution of risk.

**End of Syllabus**