



**CHARTERED INSTITUTE FOR
SECURITIES & INVESTMENT**

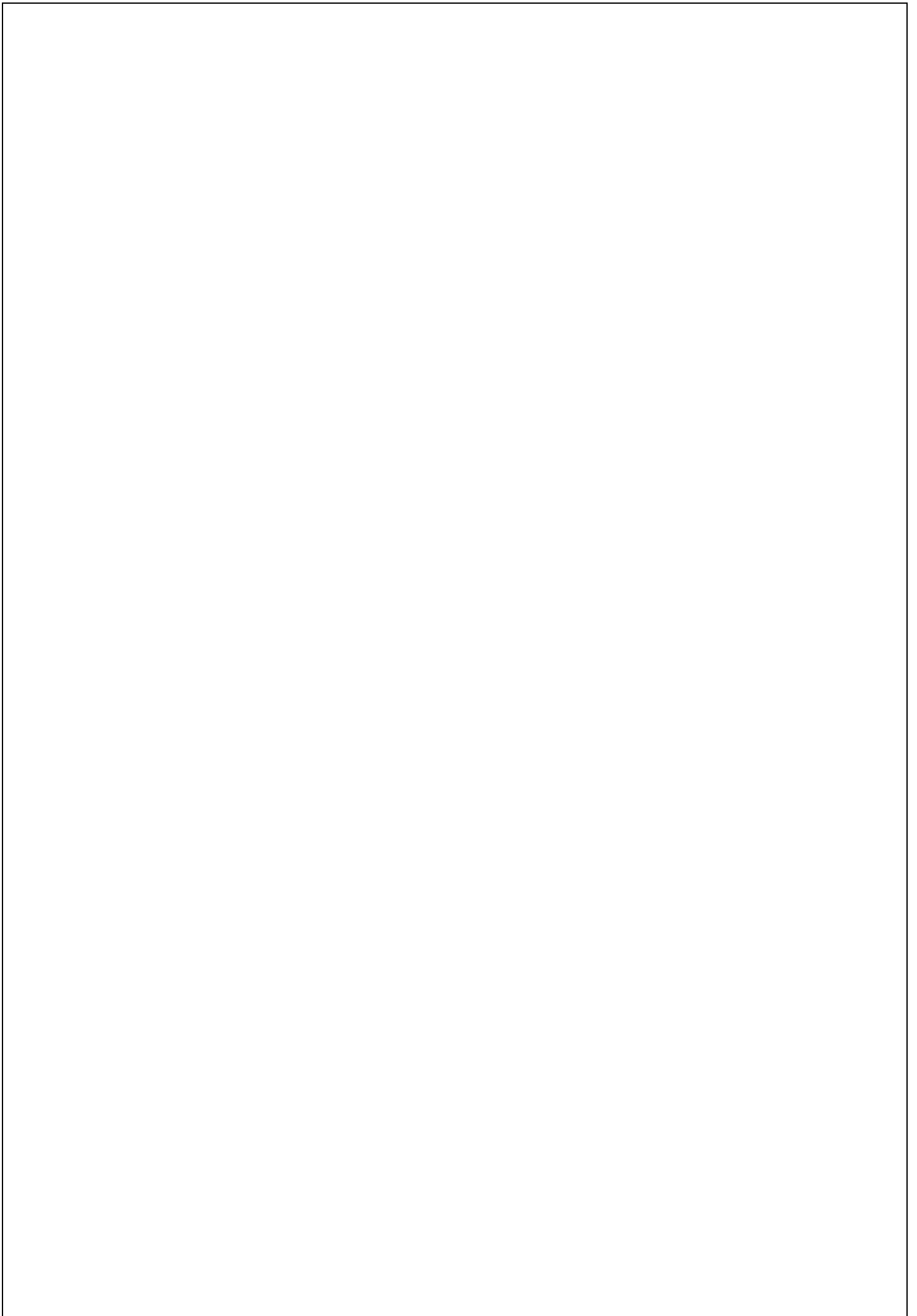
**CHARTERED INSTITUTE FOR
SECURITIES & INVESTMENT
(Formerly Securities & Investment Institute)**

**LEVEL 3
CERTIFICATE IN INVESTMENT
ADMINISTRATION**

**UNIT 11
OTC DERIVATIVES ADMINISTRATION**

EFFECTIVE FROM NOVEMBER 2008

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OBJECTIVE OF THE EXAMINATION

The objective of the examination is to ensure that candidates have a basic introduction to OTC Derivatives Administration as far as it relates to the needs of operations and administration staff.

The examination will test candidates' knowledge and understanding of the following elements:

- Introduction
- Forward Rate Agreements and Swaps
- OTC Options
- Other Principal Derivative Products
- Pricing Considerations
- Risk Theory
- Finance, Accounting and Regulatory Issues
- Operations

ASSESSMENT STRUCTURE

A 1 hour examination of 50 multiple choice questions.

Candidates sitting the examination by Computer Based Testing may have, in addition, a small number of trial questions that will not be separately identified and do not contribute to the result. Candidates will be given proportionately more time to complete the test.

UNIT STRUCTURE

The unit is divided into *elements*. These are broken down into a series of *learning objectives*.

Each learning objective begins with one of the following prefixes: *know*, *understand*, *be able to calculate* or *be able to apply*. These words indicate the different levels of skill to be tested. Learning objectives prefixed:

- *know* require the candidate to recall information such as facts, rules and principles
- *understand* require the candidate to demonstrate comprehension of an issue, fact, rule or principle
- *be able to calculate* require the candidate to be able to use formulae to perform calculations
- *be able to apply* require the candidate to be able to apply their knowledge to a given set of circumstances in order to present a clear and detailed explanation of a situation, rule or principle

EXAMINATION SPECIFICATION

Each examination paper is constructed from a specification that determines the weightings that will be given to each element. The specification is given below.

It is important to note that the numbers quoted may vary slightly from examination to examination as there is some flexibility to ensure that each examination has a consistent level of difficulty. However, the number of questions tested in each element should not change by more than plus or minus 2.

| Examination specification 50 multiple choice questions | | |
|---|---|------------------|
| Element number | Element | Questions |
| 1 | Introduction | 4 |
| 2 | Forward Rate Agreements and Swaps | 9 |
| 3 | OTC Options | 7 |
| 4 | Other Principal Derivative Products | 10 |
| 5 | Pricing Considerations | 3 |
| 6 | Risk Theory | 4 |
| 7 | Finance, Accounting and Regulatory Issues | 3 |
| 8 | Operations | 10 |
| Total | | 50 |

CANDIDATE UPDATE

Candidates are reminded to check the 'Candidate Update' area of the Institute's website (www.sii.org.uk) on a regular basis for updates that could affect their examination as a result of industry change.

SUMMARY SYLLABUS

ELEMENT 1 INTRODUCTION

- 1.1 The Definitions and History of Derivatives Trading
- 1.2 The OTC Market, Uses and Users

ELEMENT 2 FORWARD RATE AGREEMENTS AND SWAPS

- 2.1 Interest Rate Changes
- 2.2 Forward Rate Agreements (FRA)
- 2.3 Interest Rate Swaps (IRS), Basis Swaps and Currency Swaps
- 2.4 Settlement Details

ELEMENT 3 OTC OPTIONS

- 3.1 The Basics of Options
- 3.2 Option Positions
- 3.3 Settlement
- 3.4 Valuation and Pricing
- 3.5 Option Strategies
- 3.6 Further Option Types

ELEMENT 4 OTHER PRINCIPAL DERIVATIVE PRODUCTS

- 4.1 Interest Rate Protection
- 4.2 Variations of Interest Rate Products
- 4.3 Foreign Exchange
- 4.4 Asset Swaps and Bond Options
- 4.5 Credit Derivatives
- 4.6 Equity Products
- 4.7 Other Products

ELEMENT 5 PRICING CONSIDERATIONS

- 5.1 Pricing Considerations
- 5.2 The Greeks

ELEMENT 6 RISK THEORY

- 6.1 Principal Risk Categories

ELEMENT 7 FINANCE, ACCOUNTING AND REGULATORY ISSUES

- 7.1 Financial Treatment of Derivatives and Capital Framework

ELEMENT 8 OPERATIONS

- 8.1 Trading Processing and Controls
- 8.2 Payment and Reconciliation
- 8.3 Collateral
- 8.4 Documentation
- 8.5 Settlement and Trade Support
- 8.6 Electronic Processing

ELEMENT 1 INTRODUCTION

1.1 The Definitions and History of Derivatives Trading

On completion, the candidate should:

- 1.1.1 *know* the historical growth, main groupings and development of the Exchange-Traded and OTC markets
- 1.1.2 *know* the definition of a future and the main groups of Exchange-Traded derivative contracts (equities, bonds, commodities, interest rates, currency)
- 1.1.3 *understand* the basic characteristics of a futures contract
- 1.1.4 *know* the differences in contract terms between delivery, liquidity and credit risk for Exchange-Traded and OTC derivatives products
- 1.1.5 *know* the differences between the uses of futures and forward contracts
- 1.1.6 *understand* when and why Exchange-Traded and OTC derivatives contracts would be used

1.2 The OTC Market, Uses and Users

On completion, the candidate should:

- 1.2.1 *understand* that derivatives provide opportunities for synthetic return and exposures
- 1.2.2 *understand* the benefits of gearing and its' uses in the OTC markets
- 1.2.3 *understand* that derivatives provide opportunities for re-engineering of existing exposures
- 1.2.4 *know* the definition and uses of hedging, speculation and arbitrage
- 1.2.5 *understand* what is meant by the Credit Arbitrage Opportunity
- 1.2.6 *know* the roles of the main types of institution and the market sectors in which they operate (banks, insurance companies, hedge funds, investment managers, corporates)

ELEMENT 2 FORWARD RATE AGREEMENTS AND SWAPS

2.1 Interest Rate Changes

On completion, the candidate should:

- 2.1.1 *know* the fundamental importance of interest rate changes and the factors influencing them
- 2.1.2 *understand* the importance of LIBOR and EURIBOR and the uses of other benchmark rates
- 2.1.3 *know* the main benchmark Floating Rate Options and their fixing times and dates
- 2.1.4 *know* the Currency Business Days for the principal benchmark rates

2.2 Forward Rate Agreements (FRA)

On completion, the candidate should:

- 2.2.1 *know* the definition and defined terms used for a FRA
- 2.2.2 *understand* the uses of a FRA
- 2.2.3 *know* who is Buyer/Seller
- 2.2.4 *understand* the impact of interest rate changes in determining the direction of settlement of a FRA
- 2.2.5 *know* when a FRA is settled and the significance of discounting
- 2.2.6 *be able to calculate* the settlement amount

2.3 Interest Rate Swaps (IRS), Basis Swaps and Currency Swaps

On completion, the candidate should:

- 2.3.1 *know* the definition of an IRS and its defined terms
- 2.3.2 *understand* the market term “vanilla IRS ”
- 2.3.3 *know* the workings of the Calculation Period in vanilla IRS
- 2.3.4 *understand* the uses of vanilla IRS
- 2.3.5 *know* how a vanilla IRS is quoted in the market
- 2.3.6 *understand* the principal types of basis swaps
- 2.3.7 *know* the uses of basis swaps

- 2.3.8 *understand* the definition and uses of Currency Swaps
- 2.3.9 *understand* the differences between Currency Swaps and IRS
- 2.3.10 *understand* the differences between an IRS and a FRA

2.4 Settlement Details

On completion, the candidate should:

- 2.4.1 *know* the significance of the Effective Date
- 2.4.2 *know* the Day Count Fractions
- 2.4.3 *be able to calculate* the number of days in an Calculation Period
- 2.4.4 *know* what is meant by Compounding and Compounding Flat
- 2.4.5 *know* the Business Day Conventions
- 2.4.6 *know* the principal Floating Rate Options and their characteristics
- 2.4.7 *be able to calculate* the interest amount using Business Day Conventions and Floating Rate Options
- 2.4.8 *understand* the use and purpose of stub periods and interpolated rates
- 2.4.9 *be able to calculate* interpolated rates relating to stub periods
- 2.4.10 *know* what IMM dates are and when they occur
- 2.4.11 *know* what is meant by Weighting and Average

ELEMENT 3 OTC OPTIONS

3.1 The Basics of Options

On completion, the candidate should:

- 3.1.1 *know* the definition of an Option
- 3.1.2 *know* the definition of Seller (Writer) and Buyer (Holder)
- 3.1.3 *know* what is meant by a Call Option and a Put Option

3.1.4 *know* the main characteristics of an Option

- Premium
- Expiration Date
- Strike Price

3.1.5 *understand* the difference between the main Option Styles (American, European, Bermuda)

3.1.6 *understand* what is meant by Reference Rate/Price and Settlement Rate/Price

3.1.7 *understand* what is meant by in-the-money, out-the-money and at-the-money

3.1.8 *understand* what is meant by exercise and the concept of automatic exercise

3.1.9 *know* the different settlement terms

3.2 Option Positions

On completion, the candidates should:

3.2.1 *understand* the meaning of being Long or Short of an Option

3.2.2 *know* the direction, motivation and construction of a:

- Call
- Put
- Forward

3.2.3 *be able to calculate* the profit/loss in simple examples of the above positions

3.3 Settlement

On completion, the candidate should:

3.3.1 *understand* the relationship between the Exercise Date and Option Styles

3.3.2 *understand* the significance of Settlement Rate/Price

3.3.3 *understand* what is meant by futures price valuation

3.3.4 *know* what is meant by Asian Averaging

3.3.5 *be able to calculate* the Settlement Rate/Price for Asian Averaging Options

3.3.6 *be able to calculate* the Cash Settlement Amount

3.3.7 *understand* the significance of Reference Rate/Price

3.4 Valuation and Pricing

On completion, the candidate should:

3.4.1 *understand* what is meant by time value and intrinsic value

3.4.2 *understand* the concept of the breakeven point of an Option

3.4.3 *understand* the effects of time decay on Option pricing

3.4.4 *understand* the effects of volatility on Option pricing

3.5 Option Strategies

On completion, the candidate should:

3.5.1 *understand* the meaning of being Long or Short of an Option Strategy

3.5.2 *know* the direction, motivation and construction of a:

- Call Spread
- Put Spread
- Horizontal Spread
- Covered Put
- Covered Call
- Straddle
- Strangle
- Collar

3.6 Further Option Types

On completion, candidate should:

3.6.1 *know* the characteristics of knock-in/knock-out Options

3.6.2 *know* the characteristics of quanto options

3.6.3 *know* the characteristics of digital options

ELEMENT 4 OTHER PRINCIPAL DERIVATIVE PRODUCTS

4.1 Interest Rate Protection

On completion, the candidate should:

- 4.1.1 *understand* the definition, characteristics, uses and benefits of Caps
- 4.1.2 *understand* the definition, characteristics, uses and benefits of Floors
- 4.1.3 *understand* the definition, characteristics, uses and benefits of Collars

4.2 Variations of Interest Rate Products

On completion, the candidate should:

- 4.2.1 *understand* the definition, characteristics, uses and benefits of Amortising/Accreting/Rollercoaster Swaps
- 4.2.2 *understand* the definition, characteristics, uses and benefits of Swaptions and the concept of market agreed standards (ISDA Matrix)
- 4.2.3 *understand* the definition, characteristics, uses and benefits of Overnight Index Swaps
- 4.2.4 *understand* the definition, characteristics, uses and benefits of FX Resettable (MTM) Swaps

4.3 Foreign Exchange

On completion, the candidate should:

- 4.3.1 *understand* the definition, characteristics, uses and benefits of outright Forward Foreign Exchange
- 4.3.2 *understand* the definition, characteristics, uses and benefits of Foreign Exchange Options
- 4.3.3 *understand* the definition, characteristics, uses and benefits of Non-Deliverable Forwards

4.4 Asset Swaps and Bond Options

On completion, the candidate should:

4.4.1 *understand* the definition, characteristics, uses and benefits of Asset Swaps

4.4.2 *understand* the definition, characteristics, uses and benefits of Bond Options

4.5 Credit Derivatives

On completion, the candidate should:

4.5.1 *understand* the definition, characteristics, uses and benefits of single name Credit Default Swaps

4.5.2 *understand* the definition, characteristics, uses and benefits of index Credit Default Swaps

4.5.3 *understand* the definition, characteristics, uses and benefits of index tranche Credit Default Swaps

4.5.4 *understand* the definition, characteristics, uses and benefits of basket Credit Default Swaps

4.5.5 *understand* the definition, characteristics, uses and benefits of First to Default Basket Swaps

4.5.6 *understand* the definition, characteristics, uses and benefits of credit default swaps on Collateralised Obligations

4.5.7 *know* the main Credit Events

4.5.8 *understand* the Credit Event process and timelines

4.5.9 *understand* the cash or physical settlement process

4.5.10 *understand* the ISDA Protocol for settlements

4.5.11 *understand* the definition, characteristics, uses and benefits of Credit Spread Options

4.5.12 *understand* the definition, characteristics, uses and benefits of Total Return Swaps

4.6 Equity Products

On completion, the candidate should:

- 4.6.1 *understand* the definition, characteristics, uses and benefits of Equity Swaps
- 4.6.2 *understand* the definition, characteristics, uses and benefits of Equity Options
- 4.6.3 *understand* the definition, characteristics, uses and benefits of Index/Share transactions
- 4.6.4 *understand* the definition, characteristics, uses and benefits of Single/Basket transactions

4.7 Other Products

On completion, the candidate should:

- 4.7.1 *understand* the definition, principal types, characteristics, uses and benefits of Commodity Swaps:
 - Bullion Swaps
 - Precious Metal Swaps
 - Energy Swaps
- 4.7.2 *understand* the definition, characteristics, uses and benefits of Constant Proportion Portfolio Insurance (CPPI)
- 4.7.3 *understand* the definition, characteristics, uses and benefits of property index derivatives
- 4.7.4 *understand* the definition, characteristics, uses and benefits of weather derivatives
- 4.7.5 *understand* the definition, characteristics, uses and benefits of hybrid derivatives
- 4.7.6 *understand* the definition, characteristics, uses and benefits of inflation swaps

ELEMENT 5 PRICING CONSIDERATIONS

5.1 Pricing Considerations

On completion, the candidate should:

- 5.1.1 *know* the principal factors that impact pricing of OTC derivatives (interest rates, currency rates, equity prices, volatility, expected yield, spread/liquidity, credit risk)
- 5.1.2 *know* how yield curves represent the relationship between risk and reward
- 5.1.3 *understand* which instruments are used to create yield curves and how these might differ between institutions
- 5.1.4 *know* the purpose of a pricing model in respect of OTC products
- 5.1.5 *understand* the concept of net present value
- 5.1.6 *be able to apply* bid/offer/mid quotation rates
- 5.1.7 *be able to calculate* the rate derived from a bid/offer quotation
- 5.1.8 *understand* the effects of the frequency of interest payments on the value of the payments
- 5.1.9 *understand* the purpose of revaluation and marking to market

5.2 The Greeks

On completion, the candidate should:

- 5.2.1 *know* what is meant by Delta
- 5.2.2 *know* what is meant by Gamma
- 5.2.3 *know* what is meant by Theta
- 5.2.4 *know* what is meant by Vega/Kappa
- 5.2.5 *know* what is meant by Rho

ELEMENT 6 RISK THEORY

6.1 Principal Risk Categories

On completion, the candidate should:

- 6.1.1 *know* the main constituents of Credit Risk (counterparty, issuer)
- 6.1.2 *understand* the impact and consequences of errors arising from the failure to control Credit Risk
- 6.1.3 *understand* the main methods for mitigating Credit Risk (break clauses, collateral)
- 6.1.4 *know* the main constituents of Market Risk (equities, interest rates, currencies, commodities, volatility, liquidity)
- 6.1.5 *understand* the impact and consequences of errors arising from the failure to control Market Risk
- 6.1.6 *know* the main methods for mitigating Market Risk
- 6.1.7 *understand* the methods to reduce the incidence of Market Risk
- 6.1.8 *know* the main constituents of Operational Risk (Direct quantifiable risk, Indirect non-quantifiable risk)
- 6.1.9 *know* the BIS definition of Operational Risk
- 6.1.10 *understand* the main methods of mitigating Operational Risk (Reducing the likelihood, Reducing the impact, Avoid the risk, Transfer the risk, Retain the risk)

ELEMENT 7 FINANCE, ACCOUNTING AND REGULATORY ISSUES

7.1 Financial Treatment of Derivatives and Capital Framework

On completion, the candidate should:

- 7.1.1 *know* the basic accounting treatment for derivative instruments
- 7.1.2 *understand* what is meant by the term risk-weighted assets
- 7.1.3 *understand* the capital benefits of using OTC derivatives
- 7.1.4 *know* the EU/Bank for International Settlements' (BIS) requirements for capital adequacy
- 7.1.5 *know* the Basle 2 framework and the three pillars proposed by BIS

- 7.1.6 *understand* the effect on risk-weighted assets of the Capital Requirements Directive (CRD)
- 7.1.7 *know* the main Regulators and their purpose in relation to derivatives

ELEMENT 8 OPERATIONS

8.1 Trading Processing and Controls

On completion, the candidate should:

- 8.1.1 *understand* the overall process flows from trade capture to maturity
- 8.1.2 *know* the trade specific information requirements of trade capture for the main OTC derivative trades
- 8.1.3 *understand* the potential problems caused should trades fail to be booked on Trade Date
- 8.1.4 *understand* the potential problems caused should trades fail to be booked correctly
- 8.1.5 *know* which Operations controls could be put in place to ensure trades are booked correctly (Verification/Internal/External Reconciliation/Broker Confirmation/Termsheet)

8.2 Payment and Reconciliation

On completion, the candidate should:

- 8.2.1 *know* the controls required for the payment of premia and payment exchanges
- 8.2.2 *understand* the time priorities when making payments
- 8.2.3 *understand* the implications of making/receiving incorrect payments
- 8.2.4 *know* controls used to ensure payments are made correctly
- 8.2.5 *know* what Nostro and Vostro accounts are
- 8.2.6 *understand* the process of reconciling Nostro and Vostro accounts
- 8.2.7 *understand* the concept and benefits of gross vs net payments

8.3 Collateral

On completion, the candidate should:

- 8.3.1 *understand* the purpose of collateral in relation to counterparty risk
- 8.3.2 *understand* the main types of collateral and the uses and controls of margins with respect to valuation
- 8.3.3 *know* which operational controls could be used to ensure the effectiveness of collateral taken in support of credit risk
- 8.3.4 *understand* what is meant by exposure, threshold amount, minimum transfer amount, delivery amount, return amount and dispute resolution

8.4 Documentation

On completion, the candidate should:

- 8.4.1 *know* the purpose and importance of trade documentation
- 8.4.2 *understand* the implications of failing to correctly document trades in a timely manner
- 8.4.3 *know* the main purposes of Master Agreements
- 8.4.4 *understand* the benefits of trading under a Master Agreement
- 8.4.5 *know* the ISDA confirmations architecture and purpose of Master Confirmations and other forms of globally standard documentation
- 8.4.6 *know* the purpose and benefits of ISDA definitions for OTC products
- 8.4.7 *know* the purpose of the ISDA credit support annex
- 8.4.8 *know* the controls required to minimise documentation risk
- 8.4.9 *understand* the novation process, the principal parties and their responsibilities
- 8.4.10 *understand* the ISDA Novation Protocol

8.5 Settlement and Trade Support

On completion, the candidate should:

- 8.5.1 *understand* the importance of accurate static data and the potential problems caused if this is not kept up to date
- 8.5.2 *understand* the uses for MIS to control operational risk
- 8.5.3 *know* the main types of event that require monitoring and the reasons why, during the life of a transaction

8.6 Electronic Processing

On completion, the candidate should:

- 8.6.1 *understand* the reasons and advantages for moving to electronic processing of OTC Derivatives
- 8.6.2 *know* the main electronic services that are available for OTC processing and their key characteristics and benefits:
- DTCC trade affirmations
 - DTCC trade warehousing
 - SwapsWire
 - T-Zero
 - TriOptima
- 8.6.3 *know* what Financial Products Markup Language (FpML) is and its importance
- 8.6.4 *understand* what the pre-requisites are to enable growth of the electronic market place