UNIT 2: INVESTMENT PRACTICE V.12
TESTED FROM 1 DECEMBER 2014

UNIT AIMS

By the end of this unit, learners should be able to demonstrate:

• An ability to apply statistical and financial mathematics techniques

• An understanding of micro-economics

• An understanding of the macro-economic environment and its impact on investments

• An understanding of accounting principles

• An ability to evaluate the characteristics, inherent risks and behaviour of equities, cash and cash equivalents, and fixed income securities

• An ability the analyse the characteristics, inherent risks, behaviours and relevant tax considerations of derivatives

• An ability the analyse the characteristics, inherent risks and behaviours of alternative investments

• An understanding of the merits and limitations of the main investment theories

• An ability to analyse the correlation of asset classes

• An understanding of the principles of investment management

• An ability to analyse the characteristics, inherent risks and behaviours of investment products

• An understanding of the principles of investment performance measurement
Question allocation across the syllabus is balanced on the guidance of psychometric and industry specialists. The following question allocation for Version 12 of the IMC is provided as a broad indication of the relative ‘weighting’ of different parts of the syllabus in IMC examinations from 1 December 2014.

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**OTHER INFORMATION REGARDING THIS UNIT:**

- **Exam format:**
  - 105 questions
  - Online testing using standard multiple choice, item sets and gap-fill style questions
- **Time allowed for exam:** 2 hours and 20 minutes
- **Grades:** Pass or Fail
- **Study Materials:**
  - Official Training Manual v.12 is available from the CFA UK website, including revision questions with fully worked answers for calculations.
  - Mock exam available in the Candidate Area of the CFA UK website.
- **Recommended study hours:** 100 hours
- **Availability of exam sessions:** Every working day through Pearson VUE testing centres.
TOPIC 7   QUANTITATIVE METHODS

By the end of this topic, learners should be able to:

• Demonstrate an ability to apply statistical and financial mathematics techniques

7.1 SOURCES OF DATA
7.1.1 Distinguish between primary and secondary sources of data
7.1.2 Identify examples of primary and secondary data
7.1.3 Distinguish between a population and a sample
7.1.4 Explain the key sampling methods
7.1.5 Distinguish between continuous and discrete data
7.1.6 Define categorical data and explain how it can be converted to ordinal data
7.1.7 Interpret a frequency and relative frequency distribution
7.1.8 Explain the use of the following in the presentation of data: pie chart, bar chart, histogram, scatter plots, graphs

7.2 SUMMARY DATA
7.2.1 Define, explain and calculate the following measures of central tendency for both raw data and interval data: arithmetic mean, geometric mean, median, mode
7.2.2 Distinguish between symmetric and skewed data
7.2.3 Explain the relationship between the mean, median and mode for symmetric and skewed data
7.2.4 Define, explain and calculate the following measures of dispersion for both raw data and interval data: standard deviation (population and sample), variance, range, quartiles and percentiles, interquartile range
7.2.5 Explain the notion of probability distributions and identify the properties of the normal distribution
7.2.6 Explain the notion of statistical significance in the context of investment decisions

7.3 CORRELATION AND BIVARIATE LINEAR REGRESSION
7.3.1 Explain the least-squares regression technique in deriving a line of best fit
7.3.2 Calculate and interpret a forecast value for the dependent variable given the intercepts and slopes of a regression line equation
7.3.3 Explain and interpret the correlation coefficient in the context of linear regression
7.3.4 Explain the shortfalls in the application of linear regression to forecasting, including why correlation does not imply causation, and the pitfalls of data-mining
7.3.5 Define the concept of autocorrelation and describe the impact of extreme events on correlation
7.4 **INDEX NUMBERS**

7.4.1 Explain the purpose of an index value
7.4.2 Calculate an index level for the current year, given the base year data and the current year data
7.4.3 Explain the role of financial market indices in fund management
7.4.4 Explain and calculate a price relative for a share
7.4.5 Calculate and interpret a simple arithmetic index
7.4.6 Calculate an index level having re-based the index series
7.4.7 Interpret a geometric index
7.4.8 Calculate and interpret a market value-weighted index
7.4.9 Describe the composition and construction of key global bond and equity market indices
7.4.10 Explain the relevance of free-floating indices

7.5 **SIMPLE AND COMPOUND INTEREST**

7.5.1 Distinguish simple interest from compound interest
7.5.2 Calculate simple and compound interest over multiple periods
7.5.3 Distinguish a simple annual interest rate from a compound annual rate
7.5.4 Calculate the annual compound rate given the simple rate and the frequency of compounding
7.5.5 Calculate the annual simple rate of interest given the annual compound rate and the frequency of compounding
7.5.6 Define and calculate the effective continuously compounded rate given the nominal rate

7.6 **THE TIME VALUE OF MONEY – PRESENT AND FUTURE VALUE CALCULATIONS, ANNUITIES, PERPETUITIES, AND MORTGAGES**

7.6.1 Calculate and interpret future values for: single sums, annuities
7.6.2 Calculate and interpret present values for: single sums, annuities, perpetuities
7.6.3 Calculate equal instalments on a repayment mortgage given the present value of the borrowings, the fixed mortgage rate and the term of the borrowing

7.7 **THE INTERNAL RATE OF RETURN AND NET PRESENT VALUE**

7.7.1 Calculate and interpret the net present value (NPV) of a series of investment cash flows
7.7.2 Calculate and interpret an internal rate of return (IRR)
7.7.3 Explain how NPVs and IRRs can be used in investment decision making and their limitations
7.7.6 Explain why decisions using the NPV and IRR techniques in investment decision making may conflict
7.7.7 Explain the scenarios in which multiple IRRs may occur
TOPIC 8 MICRO-ECONOMICS

By the end of this topic, learners should be able to:

- Demonstrate an understanding of micro-economics

### 8.1 DEMAND AND SUPPLY

8.1.1 Explain the laws of supply and demand
8.1.2 Distinguish between movements along demand and supply schedules and shifts thereof
8.1.3 Identify the factors that cause a demand or supply schedule to shift
8.1.4 Describe, calculate and interpret ‘own price elasticity of demand’ and its impact on total revenues
8.1.5 Identify the factors that determine ‘own price elasticity of demand’
8.1.6 Explain, calculate and interpret the concept of cross elasticity of demand (as applied to substitute and complementary goods)
8.1.7 Explain, calculate and interpret elasticity of supply and its dependence on the flexibility of factors of production

### 8.2 THE COSTS OF PRODUCTION: MARGINAL COSTS, AVERAGE COSTS AND TOTAL COSTS

8.2.1 Distinguish between explicit (accounting) costs and opportunity (economic) costs
8.2.2 Explain the concept of normal, supernormal and subnormal levels of profit
8.2.3 Define fixed costs, variable costs, marginal costs, total costs and average costs
8.2.4 Explain the shapes of the short-run marginal cost, average variable cost, average fixed cost and average total cost curves
8.2.5 Explain the law of diminishing marginal returns and its impact on the shape of short-run cost curves
8.2.6 Explain the relationship between total revenue, average revenue and marginal revenues for a normal demand schedule
8.2.7 Explain the relationship between marginal cost and marginal revenue, and how this determines the profit-maximising level of output for a firm

### 8.3 SHORT AND LONG-RUN COSTS, ECONOMIES AND DISECONOMIES OF SCALE

8.3.1 Define short run and long run in the context of cost behaviour
8.3.2 Explain the notions of economies of scale, a minimum efficient scale and diseconomies of scale and their impact on the shape of the long-run average cost curve
8.3.3 Explain the relationship between long-run marginal costs and long-run average costs and explain how this determines the level of output for productive efficiency to arise
8.4 MARKET STRUCTURES
8.4.1 Identify the conditions that characterise a perfectly competitive (price-taker) market
8.4.2 Explain the conditions of long-run equilibrium for a price-taker
8.4.3 Explain the market mechanics through which only normal levels of profit can be earned by price-takers in the long run
8.4.4 Explain the relationship between short-run supply and marginal cost for a price-taker
8.4.5 Describe the shape of the long-run supply curve for a perfectly competitive industry
8.4.6 Explain the decision by a price-taker facing economic losses to either continue to operate or shut down
8.4.7 Identify the conditions that characterise a pure monopoly
8.4.8 Explain the conditions of long-run equilibrium for a monopoly
8.4.9 Distinguish between the equilibrium price, output levels and productive efficiency of a monopoly compared to a perfectly competitive firm
8.4.10 Explain price discrimination and the conditions under which it will prevail
8.4.11 Describe the characteristics of monopolistic competition and oligopoly

8.5 COMMONLY USED METHODS OF ASSESSING INDUSTRIES/COMPANIES
8.5.1 Describe how business cycles may affect relative industry performance
8.5.2 Identify Porter’s five competitive forces that drive industry competition
8.5.3 Describe the product life cycle and the characteristics of each phase (introduction, growth, maturity and decline)
8.5.4 Describe the concept of strengths, weaknesses, opportunities and threats (SWOT) analysis and its role in corporate evaluation
8.5.5 Describe the four Ps marketing mix (product, price, promotion and place) in the context of analysing competitive advantage and threats
TOPIC 9 MACRO-ECONOMICS

By the end of this topic, learners should be able to:

- Demonstrate an understanding of the macro-economic environment and its impact on investments

9.1 THE MACRO-ECONOMIC ENVIRONMENT
9.1.1 Identify the main long-term UK and global socio-economic trends
9.1.2 Identify key economic indicators and their trends
9.1.3 Describe the relationship between and importance of the main world economies
9.1.4 Describe economic and financial cycles including their predictability and regional differences
9.1.5 Identify international differences in consumption, credit and savings

9.2.1 Distinguish between gross domestic product (GDP) and gross national product (GNP)
9.2.2 Identify the difference between real and nominal GDP
9.2.3 Identify the components of the circular flow of income
9.2.4 Distinguish between injections into, and withdrawals from (‘leakages’), the circular flow
9.2.5 Distinguish between national income and GNP
9.2.6 Distinguish between classical economics and the Keynesian and Monetarist schools of thought
9.2.7 Identify the major components of the Keynesian model
9.2.8 Describe Keynesian equilibrium
9.2.9 Calculate the Keynesian multiplier given the marginal propensity to consume (MPC) or propensities to withdraw (tax, import and save)
9.2.10 Explain the paradox of thrift

9.3 INFLATION, UNEMPLOYMENT, FISCAL AND MONETARY POLICY AND THE ROLE OF CENTRAL BANKS
9.3.1 Describe fiscal policy and its influence on aggregate demand
9.3.2 Explain the role of debt in the business cycle
9.3.3 Explain the problems associated with fiscal policy
9.3.4 Identify money supply (from ‘narrow’ through to ‘wide’)
9.3.5 Describe the fractional reserve banking system
9.3.6 Define the money multiplier and identify its determinants
9.3.7 Calculate the potential money multiplier given a cash reserve ratio
9.3.8 Explain the transmission mechanism whereby monetary policy influences economic aggregates
9.3.9 Define inflation and explain how it is measured in the UK
9.3.10 Define unemployment and explain how it is measured in the UK
9.3.11 Explain the relationship between inflation and unemployment
9.3.12 Explain how inflation targeting operates in the UK
9.3.13 Distinguish between the different approaches to the control of inflation taken by the major central banks
9.3.14 Explain the other tools (including quantitative easing) used by central banks to manage the economy and in particular inflation
9.3.15 Explain the impact of bank capital and liquidity requirements and the move towards macroprudential regulation of the macro-economy
9.3.16 Explain the role of securitisation on credit growth and the wider macro-economy

9.4 THE FOREIGN EXCHANGE MARKET, GOVERNMENT POLICY AND EXCHANGE RATES, FIXED FLOATING AND MANAGED EXCHANGE RATES, AND THE BALANCE OF PAYMENTS
9.4.1 Explain how changes in supply and demand for a currency will affect its value on the foreign exchange markets
9.4.2 Identify the key components of the balance of payments
9.4.3 Explain the relationship between the supply and demand for a currency, and the underlying transactions represented in the balance of payments
9.4.4 Distinguish between a fixed, floating and a managed exchange rate (‘dirty floating’ regime)
9.4.5 Explain the economic benefits and costs of a fixed exchange rate mechanism
9.4.6 Explain an optimal currency area (OCA) and identify the advantages and disadvantages of implementing a single currency in an OCA
9.4.7 Explain the implications of persistent global imbalances of trade and capital
9.4.8 Explain the notion of purchasing power parity (PPP) as a forecasting tool for exchange rates
9.4.9 Explain the effectiveness of monetary and fiscal policy in fixed and floating exchange rate regimes
9.4.10 Describe the nature and basic operations of the foreign exchange market
9.4.11 Explain the nature of exchange rate risk and how it can be managed
9.4.12 Explain spot and forward exchange rates
9.4.13 Calculate forward rates using interest rate parity (IRP)
9.4.14 Apply the concept of PPP to forecast expected future spot exchange rates using the differential inflation rates between two countries
9.4.15 Distinguish between IRP and PPP
9.4.16 Explain the International Fisher effect
TOPIC 10  ACCOUNTING
By the end of this topic, learners should be able to:

• Demonstrate an understanding of accounting principles

10.1  FUNDAMENTAL PRECEPTS
10.1.1 Explain the legal requirement to prepare financial statements
10.1.2 Explain the concept of a company being a separate legal entity, and the purpose of the preparation of the accounts
10.1.3 Define ‘small companies’ for the purpose of financial statement preparation and explain the relevance of this definition to financial reporting requirements
10.1.4 Explain when accounts may be required to be prepared under International Financial Reporting Standards (IFRS) rather than Generally Accepted Accounting Practice in the UK (UK GAAP)
10.1.5 Explain the role of the auditor and identify, in outline, the reasons for auditors issuing a qualified report

10.2  THE BALANCE SHEET
10.2.1 Explain the purpose of a balance sheet
10.2.2 Identify and explain the key balance sheet categories and content
10.2.3 Distinguish between capitalising costs and expensing costs
10.2.4 Explain the valuation of non-current assets
10.2.5 Calculate depreciation under the straight-line and reducing balance methods
10.2.6 Calculate the profit or loss on disposal of a non-current asset
10.2.7 Explain the principles behind the valuation of inventories
10.2.8 Explain the effects of first-in-first-out and last-in-first-out valuations on inventory values and profits
10.2.9 Identify the types of current and non-current liabilities that typically appear in financial statements
10.2.10 Explain the concept of a provision
10.2.11 Explain the treatment of contingent liabilities within financial statements
10.2.12 Describe the treatment of pension costs in financial statements
10.2.13 Explain what is meant by a post-balance sheet event
10.2.14 Distinguish among authorised, issued, paid-up and called-up share capital
10.2.15 Explain the effect of the following on a balance sheet: rights issue, bonus/scrip issue, stock split, share repurchases
10.2.16 Identify and explain the main types of reserve found in the balance sheet
10.3 THE ACCOUNTING TREATMENT OF FINANCIAL INSTRUMENTS
10.3.1 Identify the various classifications of financial instrument and describe the accounting treatment of each

10.4 THE INCOME STATEMENT AND STATEMENT OF CHANGES IN EQUITY
10.4.1 Identify and explain the classification of expenses based on nature or function
10.4.2 Explain the principle of revenue recognition
10.4.3 Identify the following different levels of profit and which classes of expenses are considered in arriving at each level: gross profit, operating profit and net profit
10.4.4 Explain the objective of, and identify the information to be reported in, a statement of changes in equity

10.5 THE CASH FLOW STATEMENT
10.5.1 Explain the purpose of a cash flow statement
10.5.2 Identify the classification of cash flow activities
10.5.3 Calculate net cash flow from operations given operating profit (or vice versa) and the relevant balance sheet movements

10.6 GROUP ACCOUNTS
10.6.1 Define and distinguish between corporate investments, associated companies and subsidiaries
10.6.2 Explain the purpose of group accounts
10.6.3 Define a minority interest and explain how it is represented in the financial statements
10.6.4 Explain how goodwill arises in acquisition accounting
10.6.5 Explain the treatment of goodwill and intangible assets in the group accounts, including amortisation, useful lives and the requirement for impairment reviews

10.7 MAJOR ACCOUNTING RATIOS
10.7.1 Distinguish between profitability, liquidity and gearing ratios
10.7.2 Define and calculate return on capital employed and equity
10.7.3 Define and calculate return on equity
10.7.4 Explain how return on capital employed can be broken down into profit margin and asset turnover
10.7.5 Define, calculate and interpret: operational gearing, financial gearing, the current ratio, the quick ratio (acid test)
10.7.6 Explain the effect of the following on the major accounting ratios: rights issue, bonus/scrip issue, stock split, share repurchases
TOPIC 11  EQUITY

By the end of this topic, learners should be able to:

• Demonstrate an ability to evaluate the characteristics, inherent risks and behaviour of equities

11.1 EQUITY CAPITAL – CHARACTERISTICS
11.1.1 Identify the characteristics, and the risks to the investor, of the various classes of equity capital
11.1.2 Identify the reasons for issuance of preference shares and the implications to the investor
11.1.3 Identify the characteristics of global and American depository receipts

11.2 EQUITY – ISSUANCE
11.2.1 Distinguish between primary and secondary share issuance
11.2.2 Describe the key features of the following equity issuance methods: placing, intermediaries offer, offer for sale, offer for sale by subscription
11.2.3 Define and explain the purpose of a rights issue, a bonus/scrip issue and a stock split
11.2.4 Calculate the theoretical ex-rights price and the value of the right (nil-paid) given the cum-rights price, the issuance ratio and the subscription price
11.2.5 Calculate the theoretical ex-scrip price given the scrip ratio and the cum-scrip price
11.2.6 Evaluate the options open to an investor in response to a rights offer and explain the effect on the investor’s wealth
11.2.7 Identify and explain the motivations behind a company buying back its own shares

11.3 EQUITY – VALUATION
Relative valuation versus absolute valuation models
11.3.1 Identify the reasons for a company’s chosen dividend policy
11.3.2 Explain the practical constraints on companies paying dividends
11.3.3 Explain the importance of the dividend yield and dividend cover in stock analysis
11.3.4 Calculate dividend yield and dividend cover
11.3.5 Calculate an estimated growth rate for dividends using historic data, or using return on equity, and a retained earnings ratio
11.3.6 Distinguish between and evaluate the merits of relative valuation models and absolute valuation models, and between historic and prospective measures of value

Absolute valuation models
Holding period returns
11.3.7 Define holding period returns
11.3.8 Calculate a holding period return for an ordinary share, comprising capital gain and dividend income
Dividend discount models
11.3.9 Explain the components, assumptions and limitations of the dividend discount model (Gordon’s growth model)
11.3.10 Calculate the present value of a share using the dividend discount model

Relative valuation models
Earnings per share
11.3.11 Explain what is meant by earnings per share, and diluted earnings per share
11.3.12 Calculate a basic earnings per share

Price ratios
11.3.13 Explain the rationale for the use of the following ratios in equity valuation: price–earnings, price to book, price to sales, price to cash flow, enterprise value to earnings before interest tax, depreciation and amortisation (EBITDA)
11.3.14 Explain the possible shortfalls of using price multiples in corporate valuation
11.3.15 Explain the basics of free cash-flow based valuation methods (FCFF, FCFE) and residual income valuation methods
11.3.16 Calculate price–earnings (both historic and prospective), price to book, price to sales, price to cash flow ratios for a company

Gearing
11.3.18 Define (financial) gearing and evaluate the effect on required equity returns and thus dividend valuations

TOPIC 12 FIXED INCOME
By the end of this topic, learners should be able to:

• Demonstrate an ability to analyse the characteristics, inherent risks, and behaviour of cash and cash equivalents, and fixed income securities

12.1 CASH AND CASH EQUIVALENTS
12.1.1 Explain the main characteristics and risks associated with cash deposits and money market instruments (including Treasury Bills, CDs, CP, FRNs)
12.1.2 Calculate the discount and quoted yield on a UK Treasury Bill

12.2 FIXED INCOME SECURITIES – CHARACTERISTICS
12.2.1 Explain the structure and characteristics of the various types of fixed income instruments issued in the UK, including government bonds, index-linked bonds, corporate bonds and eurobonds
12.2.2 Identify the rationale for and risks to the issuer and holder of a convertible, callable or putable bond
12.2.3 Explain clean (quoted) and dirty pricing
12.2.4 Calculate the price of a fixed income security given its maturity, coupon and yield

12.3 FIXED INCOME SECURITIES – RISK AND RETURN
12.3.1 Identify the components of return of fixed income securities
12.3.2 Identify the main risks faced by bond holders and how these risks can be addressed
12.3.3 Identify the two components of interest rate risk (price and reinvestment risk)
12.3.4 Identify the nature of the relationship between yield and price
12.3.5 Analyse the factors that affect the sensitivity of a bond’s price to a change in required yield
12.3.6 Define and calculate the (Macaulay) duration of a bond
12.3.7 Define and calculate the modified duration of a bond
12.3.8 Calculate, given the duration of a bond, the change in price given a change in required yield
12.3.9 Explain the convexity error that arises from using duration to estimate a change in bond price using duration
12.3.10 Define credit risk as it affects bonds
12.3.11 Identify the role and drawbacks of the major credit rating agencies
12.3.12 Interpret the key classes of rating on the scales published by the major rating agencies
12.3.13 Explain the concept of debt seniority
12.3.14 Identify key features and financial ratios considered by credit rating agencies in conducting a corporate rating

12.4 FIXED INCOME SECURITIES – YIELDS AND THE YIELD CURVE
12.4.1 Define and calculate: flat yield, gross redemption yield (GRY), net redemption yield (NRY), grossed-up NRY
12.4.2 Explain when each of these measures may be appropriate to use
12.4.3 Define the yield curve
12.4.4 Explain the theories that contribute to explaining the shape of the yield curve
12.4.5 Define and calculate forward and spot interest rates
12.4.6 Explain the relationship between forward rates, spot rates and the GRY
TOPIC 13  DERIVATIVES

By the end of this topic, learners should be able to:

- Demonstrate an ability to analyse the characteristics, inherent risks and behaviours of derivatives

13.1  DERIVATIVES

13.1.1 Distinguish between forwards, futures and options
13.1.2 Explain the nature, trading and settlement of exchange traded derivatives
13.1.3 Identify the motive for using a futures contract rather than a trade in the underlying asset
13.1.4 Explain the nature of, and reasoning behind, a contango and backwardation market
13.1.5 Define the ‘basis’ of a futures contract
13.1.6 Describe the main features of the following NYSE Liffe contracts: short-term interest rate futures, long gilt futures, FTSE 100 futures
13.1.7 Explain the possible uses of the above contracts in an investment management context
13.1.8 Define the concept of index arbitrage
13.1.9 Distinguish between American-style and European-style options
13.1.10 Differentiate the time value and intrinsic value components of an option premium
13.1.11 Determine when an option is in-the-money, out-of-the-money or at-the money
13.1.12 Calculate the time value of an option, given the premium, strike price and current market price
13.1.13 Identify and explain the factors that determine the premium of an option
13.1.14 Determine the maximum profit, maximum loss and the motivation behind the following option strategies: short and long call, put, straddle, covered call and protective put
13.1.15 Explain the use of futures and options in hedging an equity portfolio
13.1.16 Calculate the number of FTSE 100 futures or options contracts required to hedge a portfolio with a specified beta value

13.2  SELLING SHORT, STOCK LENDING AND CONTRACT FOR DIFFERENCES (SWAPS)

13.2.1 Explain the mechanics and uses of short selling
13.2.2 Explain the role of stock lending in the markets, and the benefits to the participants
13.2.3 Explain the nature of contracts for differences
13.2.4 Explain the nature of, and motivations behind: interest rate swaps, currency swaps, equity swaps and inflation swaps

13.3  CONVERTIBLES AND WARRANTS

13.3.1 Explain the nature of convertible bonds and convertible preference shares
13.3.2 Calculate a conversion price, conversion value and conversion premium
13.3.3 Explain the component parts of the valuation of a convertible bond (namely straight bond value, call option value, dilution effect and conversion ratio)
13.3.4 Define a warrant
13.3.5 Distinguish between a warrant and a call option
13.3.6 Explain the key features of covered warrants

13.4 CREDIT DERIVATIVES
13.4.1 Identify the main purposes, mechanics and implications of a credit default swap (CDS)
13.4.2 Identify the main risks to the financial system resulting from the proliferation of credit derivatives

TOPIC 14 ALTERNATIVE INVESTMENTS
By the end of this topic, learners should be able to:

- Demonstrate an ability to analyse the characteristics, inherent risks and behaviours of alternative investments

14.1 COMMODITIES
14.1.1 Describe the main features of commodity markets
14.1.2 Identify the main ways investors can access the commodity markets
14.1.3 Explain the characteristics of the main commodity derivatives, including: energy, softs/biofuels, metals, emissions and weather
14.1.4 Identify the main commodity derivative indices
14.1.5 Explain how commodity exposure can be viewed as a hedge against inflation and ‘event’ risk
14.1.6 Explain the characteristics and risks of investing in ‘alternative’ investments, including gold and antiques

14.2 PROPERTY
14.2.1 Distinguish between the commercial and residential property markets
14.2.2 Explain the rationale for investing in property
14.2.3 Identify the main investors in the commercial property market and the characteristics of the principal commercial property sectors
14.2.4 Explain how the direct commercial property market works with regard to: ownership and lease structures; buying and selling; costs, the valuation of property and investment performance measurement
14.2.5 Identify the risks associated with property investment, both direct and indirect
14.2.6 Explain the routes to indirect property investment
14.2.7 Identify the transaction costs associated with property investment
14.2.8 Describe the role of the Investment Property Databank indices in the market
TOPIC 15 PORTFOLIO MANAGEMENT

By the end of this topic, learners should be able to:

- Demonstrate an understanding of the merits and limitations of the main investment theories
- Demonstrate an ability to analyse the correlation of asset classes
- Demonstrate an understanding of the principles of investment management

15.1 RISK AND RETURN AND THE IMPORTANCE OF DIVERSIFICATION
15.1.1 Explain the ‘normal’ trade-off between risk and return, and the concept of ‘dominance’ between investment strategies
15.1.2 Explain the implications of assuming that returns are normally distributed
15.1.3 Explain the importance of risk measurement in the analysis of investments, and why ex-ante and ex-post measures of risk may be very different
15.1.4 Identify the commonly used measures of risk in investment analysis and fund management
15.1.5 Explain the shortfalls of standard deviation as a measure of investment risk
15.1.6 Explain tracking error and its limitations
15.1.7 Explain the meaning of drawdown as a measure of risk
15.1.8 Explain the impact on changing levels of price volatility over time and how this affects predictions such as tracking error and downside risk
15.1.9 Explain the importance of correlation in constructing efficient portfolios, and the difficulties, limitations and meaning of correlation coefficients
15.1.10 Calculate correlation coefficients from standard deviation/covariance of two investments
15.1.11 Explain diversification and its role in constructing efficient portfolios, and its limitations during extreme market conditions
15.1.12 Explain the meaning of value at risk (VaR) and its advantages and disadvantages for risk management
15.1.13 Analyse and explain other types of investment risk, including inflation, currency, interest rate, fraud and counterparty risk

15.2 CORRELATION BETWEEN ASSET CLASSES
15.2.1 Identify the correlation between the various asset classes (equity, fixed income, property, cash and alternative investments) and explain its relevance to asset allocation
15.2.2 Explain the limitations of correlation analysis in extreme market conditions

15.3 MODELS OF RETURN AND RISK
15.3.1 Explain the concept of investments being exposed to a number of common factors which partially explain their return and risk profile (‘arbitrage pricing theory’)
15.3.2 Identify the assumptions behind the single-factor capital asset pricing model (CAPM) and identify other factors in common use
15.3.3 Explain the limitations of the CAPM model
15.3.4 Define the segmentation of risk into systematic (factor) risk and unsystematic (‘investment specific’) risk
15.3.5 Calculate the total risk given systematic and unsystematic components
15.3.6 Calculate the expected return on a security by applying the CAPM through interpreting the beta of a security
15.3.7 Explain how the historic beta may be estimated using a scatter chart of historic returns
15.3.8 Calculate the beta of an investment given the systematic risk of the investment and the risk of the market
15.3.9 Calculate the beta of an investment given the variance of the market return, and the covariance of the investment return with the market return
15.3.10 Calculate the beta of a portfolio given the component betas and the investment weightings

15.4 THE EFFICIENT MARKETS HYPOTHESIS
15.4.1 Identify and explain the key concepts of the efficient markets hypothesis (EMH)
15.4.2 Explain the limitations of the EMH
15.4.3 Evaluate the evidence on market anomalies in relation to EMH

Behavioural finance
15.4.4 Explain the basic concepts of the behavioural finance school of thought
15.4.5 Evaluate the evidence on market anomalies in relation to behavioural finance
15.4.6 Explain the concept of ‘financial amnesia’ and the role of behavioural factors in its promotion
15.4.7 Explain the notion of ‘bubbles’ in financial markets

15.5 PRICING, LIQUIDITY AND FAIR VALUE
15.5.1 Explain the relationship between pricing, liquidity and fair value for the asset classes of equity, fixed income, derivatives and alternative investments

Transaction costs
15.5.2 Identify, explain and calculate transaction costs associated with dealing in:
   – UK equities
   – fixed income securities
   – derivatives
   – alternative investments
15.5.3 Evaluate the impact of alternative trading platforms, facilitated by MiFID, on transaction costs associated with equity dealing
15.5.4 Contrast trading methods for fixed income securities with equities and analyse the impact on trading costs
15.6 APPROACHES TO FUND MANAGEMENT
15.6.1 Distinguish between a ‘top-down’ and ‘bottom-up’ approach to fund management
15.6.2 Distinguish between active and passive fund management, and explain the costs and benefits to the investor
15.6.3 Distinguish between strategic and tactical asset allocation
15.6.4 Explain the major investment styles prevalent in the fund management industry

Socially responsible investing and environmental social governance investing
15.6.5 Explain socially responsible investing (SRI) and environmental social governance investing (ESGI)

15.7 INVESTMENT MANAGEMENT PRINCIPLES – FIXED INCOME
15.7.1 Explain the following bond portfolio management techniques: cash matching/dedication, immunisation, credit risk management, riding the yield curve
15.7.2 Calculate the theoretical gain from riding the yield curve
15.7.3 Calculate duration for a bond portfolio
15.7.4 Explain the benefits and risks of using barbell and bond portfolio strategies

Liability driven investment
15.7.5 Explain the benefits and risks of a liability driven investment (LDI) strategy
15.7.6 Explain the process of an LDI strategy
15.7.7 Evaluate some of the techniques and basic measures of risk used in LDI

TOPIC 16 INVESTMENT PRODUCTS
By the end of this topic, learners should be able to:

- Demonstrate an ability to analyse the characteristics, inherent risks and behaviours of investment products

16.1 INVESTMENT PRODUCTS
16.1.1 Compare and contrast investing through direct investments in securities and assets, and investing through indirect investments
16.1.2 Distinguish between open and closed ended funds
16.1.3 Distinguish the features, risks and benefits of unit trusts, investment trusts and open-ended investment companies
16.1.4 Explain the additional benefits and risks of investing in split capital investment trusts
16.1.5 Explain the key features and objectives of exchange traded funds and exchange traded commodities
16.1.6 Explain the features and objectives of: private client funds, structured products, wraps and other platforms

16.1.7 Identify the characteristics and advantages life assurance-based investments and defined contribution pension arrangements

16.2 HEDGE FUNDS AND PRIVATE EQUITY

16.2.1 Explain the features and objectives of hedge funds and funds of hedge funds

16.2.2 Describe the various hedge fund strategies and approaches to private equity investing

16.2.3 Describe the potential benefits and limitations of hedge funds and private equity investing

16.2.4 Describe the management fee structure for hedge funds and private equity investing

TOPIC 17 INVESTMENT PERFORMANCE MEASUREMENT

By the end of this topic, learners should be able to:

- Demonstrate an understanding of the principles of investment performance measurement

17.1 TOTAL RETURN AND ITS COMPONENTS

17.1.1 Explain the importance of returns analysis in the portfolio management process

17.1.2 Identify the components of total return for a bond or equity portfolio

17.1.3 Calculate the income, capital and total return over a single period for an equity or bond portfolio

17.1.4 Calculate the reinvestment return on income over a specified investment horizon

17.1.5 Explain how returns are decomposed and attributed to different asset classes such as equities (sector/stock/interaction effect) and fixed income (shift/twist/spread return)

17.2 MONEY-WEIGHTED AND TIME-WEIGHTED RETURNS

17.2.1 Identify the data requirements to calculate a money-weighted return and time-weighted return

17.2.2 Calculate and interpret the money-weighted return or time-weighted return from data provided

17.3 CHOOSING A BENCHMARK, COMPARISONS WITH INVESTMENT OBJECTIVES, BASE PORTFOLIO AND INDICES

17.3.1 Explain the purpose of benchmarking

17.3.2 Identify the characteristics of an appropriate benchmark

17.3.3 Identify the key types of benchmark used in the investment management industry

17.3.4 Explain how to construct a benchmark portfolio comprising global equities
17.4 PERFORMANCE MEASUREMENT INCLUDING RISK ADJUSTED RETURNS

17.4.1 Explain the importance of risk analysis in performance evaluation

17.4.2 Calculate and interpret the following risk-adjusted measures of return: the Sharpe measure, the Treynor measure, the information ratio and Jensen’s alpha

17.4.3 Explain how total return can be decomposed into the following: risk-free return, return due to choice of benchmark, return due to market timing, return due to diversifiable risk and pure selectivity