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CERTIFICATE IN INVESTMENT MANAGEMENT (IMC)

(CFA UK Level 4 Certificate in Investment Management)

Unit 2: Investment Practice

MOCK EXAM ONE

VERSION 23– TESTED FROM 1 DECEMBER 2025

Key facts about the IMC Unit 2 exam

Syllabus	IMC Unit 2 Version 23 tested from 1 December 2025
Tax tables for this syllabus	Tax tables used for IMC Syllabus Version 23
Number of questions	105
Time allowed	2 hours 20 minutes
Types of questions used	• Standard multiple choice – Candidates select 1 option of 4. • Item set – Candidates are given a short scenario with several questions associated with it. The material given in the case study does not change with the questions. • Gap fill – Candidates must enter a value into the answer field. There are specific formatting requirements, and these formatting requirements are always given in the question.

Important information regarding what happens on the day

Calculator used	• From 1st June 2020 IMC candidates will not be permitted to use a handheld calculator during their examination. The onscreen calculator will be available for all questions during the exam. • The IMC calculator policy provides further information on the onscreen calculator.

Please click here for all Terms and Conditions pertaining to the Investment Management Certificate examination(s).

The IMC mock exam should NOT be viewed as a primary source of learning. By its nature, a mock exam paper will only cover proportion of the learning outcomes. Candidates are strongly advised to develop a fundamental understanding of the curriculum in order to demonstrate the competence required to pass the examination.

QUESTION ALLOCATION:

Question allocation across the syllabus is balanced on the guidance of psychometric and industry specialists. The following question allocation for Version 23 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 2025.

Content area	Topic	Topic name	Question allocation
Quantitative methods	7	Quantitative methods	10–20
Economics	8	Micro-economics	5–15
	9	Macro-economics	
Accounting	10	Accounting	10–20
Asset classes	11	Equities	25–30
	12	Fixed income	
	13	Derivatives	
	14	Alternative investments and private markets	
Investment theory, management and measurement	15	Portfolio management	25–30
	16	Investment products	
	17	Investment performance measurement	

1. **An investor holds 1,000 shares in ABC Plc with a current price of £4.00. ABC announces a one for eight rights issue with a subscription price of £2.50. What is the theoretical ex-rights price (in £ to 2 decimal places)?**

   Important! You should enter the answer *only* in numbers *strictly* using this format:

   0.00

   Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

2. **Which of the following is the highest non-investment grade credit rating on the S&P scale?**

(a) AA–

(b) A+

(c) BB+

(d) B–

3. **Which of the following is a determinant of a bond's Macaulay duration?**

(a) Inflation rate

(b) Moody's rating

(c) Frequency of coupon payment

(d) Steepness of yield curve

4. **Which of the following would be most suitable for a firm with insufficient equity capital?**

(a) Share buyback

(b) Special dividend

(c) Stock split

(d) Placing

5. **Information supplied to the Registrar of Companies maintained in accordance with the Companies Act 2006 is available for inspection by**

(a) Any member of the public

(b) Revenue and customs officials only

(c) Shareholders in the company supplying the information only

(d) Revenue and customs officials and regulators of the London Stock Exchange only

6. What is the present value of £5,000 which will be received in four year's time if the discount rate is 8% per annum?

(a) £3,402.92

(b) £3,675.15

(c) £3,969.16

(d) £6,802.44

7. Which of the following is true in relation to an investment trust's capital structure?

(a) The investment trust can raise more capital through a rights issue

(b) The investment trust cannot raise more capital through borrowing

(c) The investment trust may not have a split capital structure

(d) The investment trust is open ended

8. Calculate the arithmetic mean return for the following series of equity returns:

8%, 9%, –6%, 3%, 12%, –30%

(a) –4.00%

(b) –0.67%

(c) 0.67%

(d) 4.00%

9. Which of the following indices is a simple aggregation of unweighted share prices?

(a) FTSE 100

(b) FT 30

(c) Dow Jones Industrial Average

(d) Hang Seng

10. What is the indexation lag structure for index-linked gilts issued after September 2005?

(a) *1 month*

(b) *3 months*

(c) *8 months*

(d) *9 months*

11. Which of the following is NOT a recognised hedge fund strategy?

(a) *Global macro*

(b) *Market neutral*

(c) *Event-driven*

(d) *Index tracking*

12. An investor buys 40 ICE Futures Europe short-sterling futures at a price of 96.87. The price quickly rises to 97.16 whereby the investor sells. What is the profit on the trade (to the nearest £)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 00,000

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

The next six questions are associated with the following case study. The material given in the case study will not change.

Felicity is making her annual visit to her financial adviser. She decides to take with her some data on inflation and share prices (Exhibit 1) to discuss.

Exhibit 1				
Time Period	RPI	Share A (pence)	Share B (pence)	Share C (pence)
0	100.0	100	500	200
1	98.2	107	490	210
2	99.1	104	455	225
3	103.7	115	390	210
4	106.2	128	410	240
5	105.6	137	360	250

13. Rebase the RPI series so that Period 3 = 100. What is the new index value for Period 1 (to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 00.0

Do not include spaces, letters or symbols, but decimal points or commas should be used if indicated.

14. What is the mode of Share C's prices?

Important! You should enter the answer *only* in numbers *strictly* using this format: 000

Do not include spaces, letters or symbols, but decimal points or commas should be used if indicated.

15. What is the difference between the mean and median of Share A's prices?

(a) 2 pence

(b) 4 pence

(c) 6 pence

(d) 8 pence

16. Assuming Share C pays no dividends, what was the compound rate of return per period from Period 0 to Period 4?

(a) 4.17%

(b) 4.42%

(c) 4.66%

(d) 5.00%

17. Suppose that there are 100 shares of Share B in issue and 500 shares of Share C in issue. Create a market-weighted index such that Period 0 = 100. What is the value of the index in Period 1 (to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 000.0

Do not include spaces, letters or symbols, but decimal points or commas should be used if indicated.

18. Create a simple aggregate price index based on Shares A, B and C such that Period 0 = 100. What is the value of the index in Period 3 (to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 00.0

Do not include spaces, letters or symbols, but decimal points or commas should be used if indicated.

19. A pure monopolist maximises profits where:

(a) Marginal costs are greater than average costs

(b) Marginal revenue just equals marginal cost

(c) Marginal revenue is greater than marginal cost

(d) The average cost curve is upward sloping

20. Which of the following is NOT a leading indicator of economic activity?

(a) Unemployment

(b) Stock market

(c) Money supply

(d) Credit growth

21. A machine costs £68,000, having a useful life of 8 years with a scrap value of £16,000. What is the annual depreciation charge using the straight-line method? (to the nearest £)

Important! You should enter the answer *only* in numbers *strictly* using this format: 0,000

Do not include spaces, letters or symbols, but decimal points or commas should be used if indicated.

22. LMN Plc is trading at 585p per share. Eight months later the share price is 483p. During this period the firm also paid a dividend of 13p per share. What is the holding period return?

(a) -17.4%

(b) -15.2%

(c) -14.6%

(d) -12.1%

23. If the required yield on an undated 8% Treasury Bond with a par value of £100 is 6%, what is its price (in £ to 2 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 000.00

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

24. A company issues convertible debt at a par value of £100 where each bond can be converted into 20 of the company's ordinary shares. The current share price is £3.50. What is the conversion value of the bond?

(a) £30

(b) £50

(c) £70

(d) £120

25. Which of the following exchanges would an investor wishing to trade non-ferrous metals derivatives most likely use?

(a) NYMEX

(b) LSE

(c) LME

(d) NASDAQ

26. Which of the following best describes the Treynor measure of an equity fund?

(a) The fund's excess return divided by the fund's standard deviation

(b) The fund's excess return divided by the market's standard deviation

(c) The fund's excess return divided by the covariance with the market

(d) The fund's excess return divided by the fund's CAPM beta

27. What is the geometric mean of the following series (to 1 decimal place)?

5, 12, 6, 2, 7

Important! You should enter the answer *only* in numbers *strictly* using this format: 0.0

Do not include spaces, letters or symbols, but decimal points or commas should be used if indicated.

28. Which of the following is NOT a condition of perfect competition?

(a) Purchasers are unable to influence the price of a product

(b) Firms face a vertical demand curve

(c) Products are homogeneous

(d) Individual suppliers have negligible impact on total market supply

29. Ultra Plc holds 15% of the shares of Mega Plc. How should this holding be reflected in the accounts of Ultra Plc?

(a) As an investment

(b) As a minority interest

(c) As a participating interest

(d) As a subsidiary company

30. Reducing which one of the following is NOT likely to increase operating profit?

(a) Power costs

(b) The depreciation charge

(c) Overheads

(d) Dividend payout

31. A benchmark portfolio consists of 20% of the FTSE 100 Index and 80% of the Dow Jones Industrial Index. At the beginning of the year, the FTSE 100 Index is at 2800 and the Dow Jones is at 3500. If by the end of the year the value of the benchmark portfolio has increased by 9% and the value of the FTSE 100 Index is 2996, what will be the level of the Dow Jones Industrial Index (to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 0000.0

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

32. Suppose the one-year interest rates of the UK and US are 6% and 3% respectively. The one-year forward exchange rate is $1.58 = £1. Assuming interest rate parity, what is the one year $ / £ spot exchange rate?

(a) 1.5240

(b) 1.5675

(c) 1.6015

(d) 1.6260

33. A 5% rise in the price of coffee led to a 15% decrease in the quantity of coffee demanded, what is the price elasticity of demand for coffee?

(a) –3.0

(b) –0.33

(c) +0.33

(d) +3.0

34. Which of the following is NOT a relevant factor in determining whether a company is classified as small or medium under the Companies Act?

(a) Average number of employees

(b) Turnover

(c) Balance sheet total

(d) Cash flow

35. Which of the following statements is correct about an introduction of shares to the London Stock Exchange?

(a) New shares are issued

(b) New money is directly raised from the introduction

(c) It is a relatively inexpensive method of obtaining a listing

(d) Underwriting fees are due on the introduction

The next five questions are associated with the following case study. The material given in the case study will not change.

Jacob is a UK-based investor who is interested in purchasing some bonds for his portfolio. He takes the information in Exhibit 1 on two UK government bonds and two US government bonds to discuss with his financial adviser. The current British pound versus US dollar spot exchange rate is quoted as USD 1.6010–1.6020.

Exhibit 1

	Bond A	Bond B	Bond C	Bond D
Nominal value	£100	£100	$1000	$1000
Coupon (paid annually)	5%	8%	3%	4%
Years to Maturity	2	1	3	1
Gross Redemption Yield	4%	5%	6%	3%
Price	£101.89	£102.86	$919.81	$1009.71

36. What is the flat yield on Bond A (to 2 decimal places)?

(a) 4.00%

(b) 4.91%

(c) 5.68%

(d) 6.14%

37. Using pure expectations theory, what is the implied yield during Year 2 of Bond A's life (in % to 2 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format:
0.00

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

38. What is the Macaulay duration of Bond A (in years to 2 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format:
0.00

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

39. Jacob decides to purchase Bond C for his portfolio. What is the cost of the bond in British pounds?

(a) £574.16

(b) £574.52

(c) £1,472.62

(d) £1,472.54

40. The three-month forward GBP/USD rate is quoted as 0.5 cents and 0.3 cents premium to the current bid and ask respectively. What is the three-month forward ask rate (to 4 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 0.0000

Do not include spaces, letters or symbols (but decimal points and commas should be used if indicated).

41. A bond paying an 8% coupon with exactly 2 years to maturity is priced at £96.53 with a face value of £100. What is the internal rate of return ignoring tax?

(a) 9%

(b) 10%

(c) 11%

(d) 12%

42. In a closed economy, if the marginal propensity to save is 0.4, what is the value of the multiplier?

(a) 0.4

(b) 1.0

(c) 2.5

(d) 4.0

43. The shares of a company trade at 90p. A one for four rights issue is announced at 70p. What is the value of one right?

Important! You should enter the answer *only* in numbers *strictly* using this format: 00

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

44. A synthetic CDO is made up of:

(a) Corporate bonds

(b) Credit derivatives

(c) Equity options

(d) Commercial paper

45. An investor wants to select an equity to add to an existing portfolio. Which one of the following correlations between the return on the equity and the existing portfolio will achieve the greatest reduction in risk?

(a) +1

(b) +0.5

(c) –0.5

(d) –1

46. A pension fund manager was given a benchmark for the following year of 60% FTSE 100, 25% S&P 500 and 15% DAX. The FTSE 100 and DAX duly rose by 6% and 12% respectively whilst the S&P 500 fell by 8% (all in sterling terms). If the fund began the year with £500m invested (assume there were no payments or withdrawals), what was the value of the fund at the end of the twelve months assuming it matched its benchmark (to the nearest £m)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 000

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

47. The profit maximising level of short-term output is where marginal cost equals:

(a) Average revenue

(b) Average price

(c) Marginal revenue

(d) Average cost

48. Which of the following is an intangible asset?

(a) Property

(b) Patents

(c) Motor vehicles

(d) Machinery

49. Assume a 7% Treasury issue is quoted at £95.00, 72 days after the last semi- annual coupon payment. What is the dirty price (in a 365-day year)?

(a) £93.62

(b) £94.75

(c) £95.89

(d) £96.38

50. When a futures price is lower than the underlying spot price it is said to be in:

(a) Backwardation

(b) Inversion

(c) Contango

(d) Equilibrium

51. Which of the following best describes the semi-strong state of market efficiency?

(a) *All fundamental information is priced in but technical analysis can still be used to anticipate price movements*

(b) *All public information is contained within prices*

(c) *Price and volume are of no use in predicting stock movements but publicly available information can be used*

(d) *All public and private information is reflected in prevailing prices*

52. Over the last 2 years the return on a fund has been 12% per annum. The benchmark return was 9% per annum and the standard deviation of the surplus was 11%. What is the information ratio for the fund?

(a) *0.27*

(b) *0.33*

(c) *0.36*

(d) *0.41*

53. The value of a GNP index for Years 1, 2 and 3 is 83.2, 86.0 and 89.2 respectively. Rebase the index so that Year 2 = 100. What is the value of the index in Year 1?

(a) *96.2*

(b) *96.7*

(c) *97.5*

(d) *98.2*

54. When a firm is producing a level of output on a rising long-term average cost curve, it is experiencing:

(a) *Maximum output*

(b) *Diseconomies of scale*

(c) *Economies of scale*

(d) *Minimum efficient scale*

55. Cash in circulation plus banks' till money and deposits at the Bank of England are known as:

(a) M0

(b) M2

(c) M3

(d) M4

56. An investor buys 200 shares in ABC plc for 540p. Just after receiving a dividend of 12p, the shares are sold for 560p. What is the total holding period return (in % to 2 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 0.00

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

57. Which of the following is an important constituent of a liability driven investment strategy?

(a) Equity options

(b) Interest rate swaps

(c) Commodity futures

(d) REITs

58. A bond classified as available for sale is purchased for £5,000 with an additional £400 paid in transaction costs. What is the initial carrying amount?

(a) £4,200

(b) £4,600

(c) £5,000

(d) £5,400

59. A pension fund is valued on 15 March at £130 million. The fund has a CAPM beta of 0.93, the FTSE 100 index is currently at 6450, and the June FTSE 100 futures contract is priced at 6600. How many contracts does the manager need to sell to hedge the position?

(a) 1,529

(b) 1,643

(c) 1,717

(d) 1,832

60. What determines the height of the short-run Phillips curve?

(a) Short-term interest rates

(b) Unemployment

(c) Long-term money growth rate

(d) Output gap

61. An equity fund has a Treynor measure of 5.0. The return on the fund was 10% with a CAPM beta of 1.2. What is the risk-free rate?

(a) 6.0%

(b) 4.0%

(c) 3.5%

(d) 2.5%

62. The government issues a 90-day Treasury Bill for a price of £993.00 with a par value of £1,000. What is the quoted annualized yield in the market for an investor who holds the bill to maturity?

(a) 2.86%

(b) 3.27%

(c) 3.85%

(d) 4.21%

63. The correlation of two securities is expressed as:

(a) The covariance of the securities divided by the product of their respective standard deviations

(b) The ratio of their respective volatilities

(c) The product of the two standard deviations divided by the risk-free rate

(d) The ratio of their respective covariances

64. The failure of investors to realise a loss in the hope that it will be reversed is known as:

(a) Regret avoidance

(b) Representativeness

(c) Memory bias

(d) Conservatism bias

65. Which of the following is NOT an important criterion for a good benchmark?

(a) Measurable

(b) Appropriateness

(c) Investable

(d) Ambiguous

66. Unemployment that exists due to a high level of the real wage is known as:

(a) Structural unemployment

(b) Frictional unemployment

(c) Classical unemployment

(d) Terminal unemployment

67. The pound spot rate against the dollar is quoted as USD 1.5750–1.5760 with the three-month forward rate quoted as a 1.2 cents and 1.4 cents discount respectively. What is the 3-month forward bid rate (to 4 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 0.0000

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

68. In a perfectly competitive industry, what shape is each firm's demand curve?

(a) Vertical

(b) Downward sloping

(c) Upward sloping

(d) Horizontal

69. What is the present value of £1,000 to be received in 5 years' time if the interest rate is 8.0% p.a.?

(a) £676.84

(b) £680.58

(c) £735.03

(d) £1,469.33

70. Which of the following is not deducted from turnover to derive operating profit?

(a) *Interest expenses*

(b) *Distribution expenses*

(c) *Administration expenses*

(d) *Cost of sales*

71. ABC Plc currently trades at 122 pence per share. An investor sells 1 put at a 120 pence strike price and also sells 1 call at a 130 pence strike price. The premiums are 9 pence and 3 pence respectively. What is this strategy called?

(a) *Short butterfly spread*

(b) *Short straddle*

(c) *Short strangle*

(d) *Covered call*

72. Marginal revenue can best be described as:

(a) *The level of revenue where fixed costs are minimised*

(b) *The total revenue from all output divided by the number of units of output*

(c) *The revenue gained from increasing sales by one unit of output*

(d) *The level of revenue that is one unit of output above breakeven*

73. Which one of the following security characteristics is most typical of the 'Value' investment style?

(a) *High absolute price to earnings ratio*

(b) *High relative price to earnings ratio*

(c) *Low dividend yield*

(d) *Low price to book ratio*

74. An investment manager enters into an equity index swap for a notional value of £5m. She agrees to pay the total return on the FTSE 100 in exchange for receiving a fixed 4% return over the next year. The FTSE 100 subsequently has a total return of –3% in the next 12 months. What is the net cash flow accruing to the investment manager (expressed in pounds)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 000,000

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

75. When the market price of a bond is £89 and assuming the bond is redeemed at par, then:

(a) *It is not possible to predict whether interest or redemption yield is greater*

(b) *Interest yield is greater than redemption yield*

(c) *Redemption yield is equal to interest yield*

(d) *Redemption yield is greater than interest yield*

76. If one company acquires another company for a sum above the total value of the individual assets of the acquired company, how is the excess defined in the accounts?

(a) *Acquisition premium*

(b) *Goodwill and other intangible assets*

(c) *Investment*

(d) *Takeover premium*

77. XYZ plc has a covariance with the market of 340. If XYZ has a CAPM beta of 0.8, what is the variance of the market portfolio?

(a) *425*

(b) *365*

(c) *280*

(d) *256*

78. A pension fund begins the year with a value of £225m. After 6 months, a further £15m is deposited in the fund. No other payments or withdrawals are made. By the end of the year the fund has a value of £258.59m. What is the money-weighted return on the fund?

(a) *7%*

(b) *8%*

(c) *9%*

(d) *10%*

79. An equity fund has a Sharpe ratio of 0.7. If the return of the fund was 12% with a standard deviation of 10%, what was the risk-free rate?

(a) 4%

(b) 5%

(c) 6%

(d) 7%

80. The long-run Phillips curve is said to be:

(a) Vertical for all inflation rates at the natural level of unemployment

(b) Horizontal for all nominal interest rates

(c) Proportional to the money supply

(d) Upward sloping to the right

81. It is expected that inflation rates in the UK and US will be 6% and 3% respectively over the next 12 months. The one-year US interest rate is 7%. Assuming the International Fisher Effect holds, what is the implied UK interest rate (in % to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format:
00.0

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

82. The ability of a firm to charge different prices to different customers is known as:

(a) Price gouging

(b) Price discrimination

(c) Price discovery

(d) Price differentiation

83. An amount of £650 is placed on deposit at a compound rate of 3% paid annually. What is the value of the deposit after 4 years (in £ to 2 decimal places)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 000.00

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

84. Knife Plc owns 85% of the share capital of Fork Plc, the relationship between Fork Plc to Knife Plc is classed as:

(a) Holding company

(b) Partially owned subsidiary

(c) Minority interest

(d) Participating interest

85. Securities A and B lie on the Security Market Line. Security A has an expected return of 14% and a beta of 1, and Security B has an expected return of 18% and a beta of 1.5. What is the risk-free rate of return (expressed as a percentage rounded to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format: 0.0
Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

86. Which of the following best describes 'the median'?

(a) The most frequent value in any series

(b) The geometric mean of the two middle values when the observations have been ordered by size if there are an even number of observations

(c) The arithmetic mean of the two middle values when the observations have been ordered by size if there are an even number of observations

(d) The cumulative frequency of a series

87. A company announces a one for 25 scrip issue. The pre-announcement share price is 75p. Calculate the change in the value of an investors holding where her initial holding was 5,000 shares.

(a) -£150.00

(b) £0.00

(c) £125.00

(d) £150.00

88. An investor forms an equally weighted portfolio of stocks X and Y with CAPM betas of 1.2 and 0.6 respectively. The one-year risk-free rate is 5%. The investor anticipates that the market will rise by 8% over the next 12 months. What is the expected return on the portfolio (in % to 1 decimal place)?

Important! You should enter the answer *only* in numbers *strictly* using this format:

0.0

Do not include spaces, letters or symbols, but decimal points and commas should be used if indicated.

89. Suppose there is the choice between two investments: one pays £1000 in 4 years' time, the other pays £1700 in seven years' time. Assuming they are equally risky, and the appropriate discount rate is 9%, what is the difference in NPV between the investments?

(a) £221.53

(b) £362.19

(c) £502.10

(d) £700.00

90. A one-year bond is priced at £95.25 with a similar two-year bond priced at £89.75. Assume the shape of the yield curve does not change. What additional return can an investor achieve by purchasing the two-year bond and selling it after 12 months rather than buying the one-year bond and holding it to maturity?

(a) 0.50%

(b) 0.74%

(c) 1.14%

(d) 1.51%

91. Calculate the arithmetic mean and median of the series of bond returns:

6%, –2%, 1%, 12%, –2%

(a) 4% and –2%

(b) 3% and 1%

(c) 3% and –2%

(d) 4% and 1%

92. XYZ Plc has an operating profit of £6m, issued share capital of £20m, long- term debts of £12m and reserves of £8m. What is XYZ's return on capital employed?

(a) 30%

(b) 23.3%

(c) 18.7%

(d) 15%

93. What is the internal rate of return of a zero-coupon bond with two years until redemption, a par value of £100 and a current market price of £85.73?

(a) 7%

(b) 8%

(c) 9%

(d) 10%

94. Company ABC Plc has sales turnover of £200m, fixed costs of £50m, variable costs of £90m and operating profit of £60m. If sales revenue increases by 20% the following year, what will the increase in operating profit be?

(a) £12m

(b) £17m

(c) £22m

(d) £27m

95. What type of fund management is index tracking?

(a) Passive

(b) Aggressive

(c) Active

(d) Tactical

96. What type of economic variables are money supply, credit growth and the stock market?

(a) *Lagging*

(b) *Coincident*

(c) *Current*

(d) *Leading*

97. What is the main aim of a liability driven investment (LDI) approach?

(a) *To give pension funds a guaranteed positive return*

(b) *To ensure pension fund liabilities are minimised*

(c) *To grow pension fund assets above the rate of inflation*

(d) *To match pension funds assets to their liabilities*

98. Fund managers A and B both achieved a return of 10% on their respective portfolios over the past year. What additional information would a trustee require to calculate the Sharpe risk-adjusted measure of performance of these two portfolios?

(a) *The risk-free rate of return over the past year only*

(b) *The risk-free rate of return over the past year and* the standard deviation of return on these portfolios over the past year *only*

(c) *T*he standard deviation of return on these portfolios over the past year *and the CAPM beta of these portfolios over the past year only*

(d) *The risk-free rate of return over the past year, t*he standard deviation of return on these portfolios over the past year *and the CAPM beta of these portfolios over the past year*

99. Which of the following statements best describes the strategy of a market neutral hedge fund?

(a) *It aims to have returns that have a low correlation with returns on traditional assets*

(b) *It aims to replicate returns on traditional assets*

(c) *It aims to have returns that have a high correlation with returns on traditional assets*

(d) *It aims to provide a hedge in the event that returns on traditional assets fall*

100. Investing in commodities can be viewed as hedging against which one of the following types of risk?

(a) Default risk

(b) Interest rate risk

(c) Inflation risk

(d) Liquidity risk

101. Which of the following best describes how derivatives are treated in financial accounts?

(a) Derivative contracts are only accounted for in the balance sheets of financial companies

(b) They are captured on the balance sheet when a contractual arrangement is entered

(c) They are captured on the balance sheet when the contract is settled

(d) They are only disclosed as notes to the accounts

102. Which of the following best describes an index-linked gilt?

(a) A gilt whose price is linked to SONIA

(b) A gilt whose price is linked to the RPI

(c) A gilt whose coupons and principal are linked to SONIA

(d) A gilt whose coupons and principal are linked to the RPI

103. Which one of the following would shift a demand curve to the left?

(a) A fall in the price of a close complement

(b) A fall in the price of a close substitute

(c) A rise in income

(d) A rise in the price of the good

104. Given an industry average P/E ratio of 12, a company JKL had earnings per share last year of £0.25. What would be a fair valuation of the JKL based on P/E?

(a) £1.50

(b) £3.00

(c) £4.80

(d) £48.00

105. A trustee wishes to compare the performance of two funds. Fund A has returned 10.00% while fund B has returned 12.00% over the same period. The trustee calculates that the standard deviation of the return on these funds over this period has been 12.00% and 18.00% for funds A and B respectively. She also calculates the betas of funds A and B to have been 1.40 and 1.00 respectively. Assume a risk-free rate of interest of 4%. If the trustee was to use both the Sharpe and the Treynor measures of performance, what might she conclude from the relative performances of the two funds?

(a) *Fund A appears to have performed better than fund B according to the Treynor measure, but the reverse is true when we consider the Sharpe measure*

(b) *Fund A appears to have performed better than fund B according to the Sharpe measure, but the reverse is true when we consider the Treynor measure*

(c) *Both funds have performed equally well*

(d) *Fund A has outperformed fund B according to both measures*

Answers - Unit 2 mock 1

1	3.83	2	c	3	c	4	d	5	a
6	b	7	a	8	b	9	c	10	b
11	d	12	£14,500	13	94.7	14	210	15	b
16	c	17	102.7	18	89.4	19	b	20	a
21	£6,500	22	b	23	£133.33	24	c	25	c
26	d	27	5.5	28	b	29	a	30	d
31	3832.5	32	d	33	a	34	d	35	c
36	b	37	3.01%	38	1.95	39	b	40	1.5990
41	b	42	c	43	16p	44	b	45	d
46	527	47	c	48	b	49	d	50	a
51	b	52	a	53	b	54	b	55	a
56	5.93%	57	b	58	d	59	d	60	c
61	b	62	a	63	a	64	a	65	d
66	c	67	1.587	68	d	69	b	70	a
71	c	72	c	73	d	74	£350,000	75	d
76	b	77	a	78	b	79	b	80	a
81	10.1	82	b	83	£731.58	84	b	85	6.0
86	c	87	b	88	7.70%	89	a	90	c
91	b	92	d	93	b	94	c	95	a
96	d	97	d	98	b	99	a	100	c
101	b	102	d	103	b	104	b	105	b

* Further breakdown of calculations below

Mock exam 1 – worked calculations

Q1.

Current value = 1,000 shares × £4.00 = £4,000

One for eight rights issue entitles, 1,000 / 8 = 125 shares, at £2.50.

Value of new shares if exercised = 125 × £2.50 = £312.50

Total value of holding = £4,000 + £312.50 =

£4,312.50 Ex-rights price = £4,312.50 / (1000 + 125)

= £3.83

Q6. (b)

Present Value (PV) = Initial Value / (1 + Discount Rate)$^{\text{Number of Years}}$

PV = £5,000 / $(1 + 0.08)^4$ = £3,675.15

Q8. (b)

Arithmetic Mean (AM) = sum of returns / number of returns AM =

(8 + 9 + (-6) + 3 + 12 + (-30)) / 6 = -0.67

Q12.

Number of basis points profit= (97.16 – 96.87) × 100 = 29

basis points

Each short-sterling future basis point is valued at £12.50.

Total profit per contract = 29 × £12.50 = £362.50

Investor has 40 contracts, hence total profit = 40 × £362.50 = £14,500

Q13.

New Period 1 value = (New Period 3 value / Old Period 3 value) × Old Period 1 value

New Period 1 value = (100 / 103.7) × 98.2 = 94.7

Q14.

The mode of Share C's share prices is the value that occurs most often.

210 pence occurs twice whereas all other values only occur once. Therefore, the mode is 210 pence.

Q15. (b)

Arithmetic Mean (AM) = sum of returns / number of returns AM =

(100 + 107 + 104 + 115 + 128 + 137) / 6 = 115.17 pence

To find median, firstly order share prices in ascending order... 100

104 107 115 128 137

Median is the average of the 3rd and 4th prices = (107 + 115) / 2 = 111 pence

Difference between mean and median = 115.17 – 111 = 4 pence

Q16. (c)

Compound Growth (CG) = (Price in Year 4 / Price in Year 0)$^{1/\text{number of years}}$

- 1 CG = $(240 / 200)^{1/4}$ – 1 = 0.0466 or 4.66%

Q17.

Market Value = Number of Shares × Price of Share

Index Value (IV0) in Period 0 = (100 × £5) + (500 × £2) = £1,500

Index Value (IV1) in Period 1 = (100 × £4.90) + (500 × £2.10) =

£1,540 Rebasing IV0 to 100, gives IV1 of = (1,540 / 1,500) × 100 =

102.7

Q18.

Simple aggregate price index is the sum of the three share prices. Period 0

= 100 + 500 + 200 = 800

Period 3 = 115 + 390 + 210 = 715

Rebasing Period 0 to 100, gives Period 3 value of = (715 / 800) × 100 = 89.4

Q21.

Annual Depreciation Charge (ADC) = (Initial Cost – Scrap Value) / Years of Life

ADC = (£68,000 - £16,000) / 8 = £6,500

Q22. (b)

Holding Period Return (HPR) = ((Final Price + Dividends) / (Initial Price)) – 1

HPR = ((483 + 13) / 585) - 1 = -0.152 or -15.2%

Q23.

Price of undated bond = Par value × (coupon payment / required yield) Price =

£100 × (8 / 6) = £133.33

Q24. (c)

Conversion Value (CV) = Current Share Price × Conversion Ratio CV

= £3.50 × 20 = £70

Q27.

The geometric mean (GM) of a series is the product of the values to the power of the reciprocal of the number of values.

$GM = (5 \times 12 \times 6 \times 2 \times 7)^{1/5} = 5.5$

Q31.

Increase in FTSE 100 = (2,996 – 2,800) / 2,800 = 0.07 or 7%

Benchmark increase = (0.2 × FTSE increase) + (0.8 × Dow Jones Increase)

Therefore, Dow Jones increase = (0.09 – (0.2 × 0.07)) / 0.8 = 0.095 or 9.5%

New level of Dow Jones is thus 3,500 × 1.095 = 3,832.5

Q32. (d)

Using interest rate parity, $(F / E) = (1 + R_x) / (1 + R_y)$

Therefore, spot exchange rate, $E = F \times (1 + R_y) / (1 + R_x)$

E = 1.58 × 1.06 / 1.03 = 1.6260

Q33. (a)

Price elasticity of demand (PED) = (change in quantity demanded) / (change in price)

PED = 15 / -5 = -3

Q36. (b)

Flat yield (FY) = Coupon / Price

FY = £5 / £101.89 = 0.0491 or 4.91%

Q37.

Assuming pure expectations theory applies, the square of the yield of a two-year bond (Bond A) is equal to the product of the yield of a comparable one-year bond currently (Bond B) and the yield of comparable one-year bond in one year's time.

Thus, $(1 + 0.04)^2 = (1 + 0.05) \times (1 + r2)$

Therefore, $r2 = (1.04^2 / 1.05) – 1 = 0.03009$ or 3.01%

Q38.

To calculate Macaulay Duration, firstly work out present value (PV) of cash flows... PV1 =

£5 / 1.04 = £4.808

$PV2 = £105 / 1.04^2 = £97.078$

Macaulay Duration (MD) = ((PV1 × 1) + (PV2 × 2)) / (PV1 + PV2)

MD = ((£4.808 × 1) + (£97.078 × 2)) / (£4.808 + £97.078) =

1.95

Q39. (b)

Bond C costs $919.81.

The exchange rate (using the bid value) is 1.6010.

Cost in British pounds = 919.81 / 1.6010 = £574.52

Q40.

The bid-ask spread of the spot rate is $1.6010 – $1.6020

The premium of the forward to the spot ask is $0.0030. Since it is a premium it should be subtracted.

Therefore, forward ask rate = 1.6020 – 0.0030 = 1.5990

Q41. (b)

This has to be calculated using trial and error with the four possible options until the correct solution is found.

The price of the bond is = £8 / (1 + r) + £108 / $(1 + r)^2$, where r is the internal rate of return (IRR)

Substituting 10% for r gives, (£8 / 1.1) + (£108 / 1.21) = £96.53

This is equal to the price of the bond hence the IRR is 10%.

Q42. (c)

The multiplier is equal to 1 / (marginal propensity to save)

Multiplier = 1 / 0.4 = 2.5

Q43.

The ex-rights price is the subscription price of the new share (70 pence) plus the number of shares required to be held to obtain one right (4 shares) multiplied by the current share price (90 pence) divided by the total amount of shares after the rights issue (5 shares).

Hence, ex-rights price = (70p + (4 × 90p)) / 5 = 86p

The value of one right = ex-rights price – subscription price = 86p – 70p = 16p

Q46.

Increase in the value of the benchmark = (0.6 × 6%) + (0.15 × 12%) + (0.25 × -8%) = 3.4%

The fund matched the increase of the benchmark, hence it is now worth £500m × 1.034 = £517m

Q49. (d)

Interest is paid semi-annually, thus first calculate the proportion of the semi-annual period elapsed since last payment, i.e. 72 / 182.5 = 0.3945

The 7% coupon is paid semi-annually and the Treasury has a par value of £100 hence the semi- annual coupon has a value of £100 × 0.07 / 2 = £3.50

The interest accrued since the last payment is thus 0.3945 × £3.50 = £1.38

Dirty price = Clean Price + Accrued Interest = £95.00 + £1.38 = £96.38

Q52. (a)

Information ratio (IR) = (fund return – benchmark return) / (standard deviation of surplus) IR =

(12% – 9%) / 11% = 0.27

Q53. (b)

Rebased Year 1 = (Rebased Year 2 / Original Year 2) × Original Year 1 = (100 / 86.0) × 83.2 = 96.7

Q56.

Holding Period Return (HPR) = ((Final Price + Dividends) / (Initial Price)) – 1

HPR = ((560 + 12) / 540) – 1 = 0.0593 or 5.93%

Q58. (d)

Available for sale bonds have transactions costs added to purchase price to arrive at initial carrying value. Hence, £5,000 + £400 = £5,400

Q59. (d)

Each FTSE 100 future has a value of £10 per point, i.e. the June futures have a notional value of 6,600 × £10 = £66,000.

Number of futures contracts required = (value of fund × CAPM beta) / notional futures value

Therefore, (£130,000,000 × 0.93) / £66,000 = 1831.8, i.e. 1832 contracts (after rounding to nearest integer)

Q61. (b)

Treynor measure (TM) = (fund return – risk-free rate) / CAPM beta

Rearranging gives, risk-free rate (RFR) = fund return – (TM × CAPM beta) RFR =

10% – (5.0 × 1.2) = 4.0%

Q62. (a)

Percentage gain if bill held to maturity = (£1000 - £993) / £993 = 0.00705 or 0.705%

Bill was only held for 90 days so annualized value (assuming a 365-day year) is given by:

(365 / 90) × 0.705% = 2.86%

Q67.

The bid-ask spread of the spot rate is $1.5750 – $1.5760

The discount of the forward to the spot bid is $0.0120. Since it is a discount it should be added.

Therefore, forward bid rate = 1.5750 + 0.0120 = 1.5870

Q69. (b)

Present Value (PV) = Initial Value / (1 + Discount Rate)$^{\text{Number of Years}}$

PV = £1,000 / $(1 + 0.08)^5$ = £680.58

Q74.

Manager receives 4% of notional value of £5m from fixed portion of swap. The FTSE 100 fell so manager also receives 3% from variable portion of swap.
Net cash flow = £5m × (0.04 – (-0.03)) = £5m × 0.07 = £350,000

Q77. (a)

CAPM beta = Covariance / Variance of Market Therefore,

Variance = 340 / 0.8 = 425

Q78. (b)

The initial £225m earns a full year return, r, whereas the £15m deposit only earns half a year return. Thus,

£258.59m = £225m × (1 + r) + £15m × $(1 + r)^{0.5}$

This has to be attempted through trial and error using the four options until the correct solution is found.

Substituting 8% for r gives: £225m × (1.08) + £15m × $(1.08)^{0.5}$ = £258.59m

Q79. (b)

Sharpe ratio = (Fund Return – Risk-Free Rate) / Standard Deviation

Risk-Free Rate (RFR) = Fund Return – (Sharpe Ratio × Standard Deviation) RFR =

12% – (0.7 × 10%) = 5%

Q81.

Assuming the International Fisher Effect holds, (1 + RUK) / (1 + EiUK) = (1 + RUS) / (1 + EiUS), where R is the interest rate and E_i is the expected inflation rate.

Therefore, (1 + RUK) / 1.06 = 1.07 / 1.03

RUK = ((1.06 × 1.07) / 1.03) – 1 = 0.101 or 10.1%

Q83.

Value of deposit = £650 × 1.03^4 = £731.58

Q85.

Assuming Security Market Line holds:

Expected Stock Return = Risk-Free Rate + Beta × (Expected Market Return – Risk-Free Rate)

Security A: 14% = RFR + 1 × (Market Return – RFR)

Therefore, Market Return = 14%

Security B: 18% = RFR + 1.5 × (14% - RFR) = 21% - 0.5 × RFR Therefore,

0.5 × RFR = (21% -18%), so RFR = 6.0%

Q88.

Expected Stock Return = Risk-Free Rate + Beta × (Expected Market Return

– Risk-Free Rate) Stock X Expected Return = 5% + 1.2 × (8% - 5%) =

8.6%

Stock Y Expected Return = 5% + 0.6 × (8% - 5%) = 6.8%

Portfolio is equally weighted so expected return is 0.5 × (8.6% + 6.8%) = 7.7%

Q89. (a)

Present Value of first investment = £1,000 / 1.09^4 = £708.43 Present

Value of second investment = £1,700 / 1.09^7 = £929.96 Difference

= £929.96 - £708.43 = £221.53

Q90. (c)

Return on 1-year bond = £100 / £95.25 – 1 = 0.0499 or 4.99%

Return on 2-year bond = £100 / £89.75 – 1 = 0.1142 or

11.42%

The additional year of return is thus worth 1.1142 / 1.0499 = 1.0612 or 6.12%

Difference = 6.12% - 4.99% = 1.13% (0.01% difference from (c) due to rounding) **Q91.**

(b)

Arithmetic Mean (AM) = sum of returns / number of returns (6% +

(-2%) + 1% + 12% + (-2%)) / 5 = 3%

Median is the middle of the five numbers when arranged in ascending order. In this case this equals 1%.

Q92. (a)

Return on Capital Employed (ROCE) = Operating Profit / Capital Employed

ROCE = £6m / (£20m + £12m + £8m) = 0.15 or 15%

Q93. (b)

For zero-coupon bond, price = par value / $(1 + \text{interest rate})^{\text{years to maturity}}$

IRR = $(£100 / £85.73)^{0.5}$ – 1 = 0.08 or 8%

Q94. (c)

If sales increase by 20% then so will variable costs but fixed costs remain the same. Operating

Profit = (£200m × 1.2) - £50m – (£90m × 1.2) = £82m

Difference = £82m - £60m = £22m

Q104. (b)

Valuation = Earnings per share × Price-Earnings Ratio = £0.25 × 12 = £3.00