THE CHARTERED INSURANCE INSTITUTE

CII

AF4

Advanced Diploma in Financial Planning

Unit AF4 – Investment planning

April 2016 Examination Guide

SPECIAL NOTICES

Candidates entered for the October 2016 examination should study this examination guide carefully in order to prepare themselves for the examination.

Practice in answering the questions is highly desirable and should be considered a critical part of a properly planned programme of examination preparation.

AF4 – Investment planning

Contents

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IMPORTANT GUIDANCE FOR CANDIDATES

Introduction

The purpose of this Examination Guide is to help you understand how examiners assess candidates' knowledge and their ability to apply this to a case study scenario. You can then use this understanding to help you in your preparation for the examination.

Before the examination

Study the syllabus carefully
This is available online at www.cii.co.uk or from Customer Service. All the questions in the examination are based directly on the syllabus. *You will be tested on the syllabus alone,* so it is vital that you are familiar with it.

There are books specifically produced to support your studies that provide coverage of all the syllabus areas, however you should be prepared to read around the subject. This is important particularly if you feel that further information is required to fully understand a topic or an alternative viewpoint is sought. The reading list which can be found with the syllabus provides valuable suggestions.

Note the assumed knowledge
For the Advanced Diploma in Financial Planning, candidates are assumed to have studied the relevant units of the Diploma in Financial Planning or the equivalent. This knowledge is set out on the relevant syllabus.

Read widely
If you do not have experience in advising clients whose financial needs are relatively sophisticated, *it is quite unrealistic to expect that the study of a single textbook will be sufficient to meet all your requirements.* While books specifically produced to support your studies will provide coverage of all the syllabus areas, you should be prepared to read around the subject. This is important, particularly if you feel that further information is required to fully understand a topic or an alternative viewpoint is sought. It is vital that your knowledge is widened beyond the scope of one book. The reading list which can be found with the syllabus provides valuable suggestions.

Make full use of the Examination Guide

This Examination Guide contains a full examination paper and model answers. The model answers show the types of responses the examiners are looking for and which would achieve maximum marks. *However, you should note that there are alternative answers to some question parts which would also gain high marks.* For the sake of clarity and brevity not all of these alternative answers are shown.

This guide and previous Examination Guides can be treated as 'mock' examination papers. Attempting them under examination conditions as far as possible, and then comparing your answers to the model ones, should be seen as an essential part of your exam preparation. The examiner's comments on candidates' actual performance in each question provide further valuable guidance. You can purchase copies of the most recent Examination Guides online at www.cii.co.uk. CII members can download free copies of older Examination Guides online at www.cii.co.uk/knowledge.

Know the layout of the tax tables

Familiarise yourself with the information contained within the tax tables printed at the back of each Examination Guide. These tax tables will be provided to candidates as part of the examination paper. The tax tables enable you to concentrate on answering the questions without having to worry about remembering all the information. *Please note that you are not allowed to take your own tax tables into the examination.*

Know the structure of the examination

Assessment is by means of a three-hour written paper in two sections. All questions are compulsory:

Section A consists of one case study, worth 80 marks. You will be expected to carry out a variety of tasks, after analysing the information provided.

Section B consists of two shorter case studies worth a total of 80 marks. Again you will be expected to carry out a variety of tasks based upon the information provided.

Each question part will clearly show the maximum marks which can be earned.

Appreciate the standard of the examination

Candidates must demonstrate that they are capable of advising clients *whose overall levels of income and capital require a more sophisticated scheme of investment* than is normally prepared by a Certificate level adviser. These clients require a critical appraisal of the various financial planning options available to them.

Read the Advanced Diploma in Financial Planning information for candidates and important notes for candidates

Details of administrative arrangements and the regulations which form the basis of your examination entry are to be found in the current Advanced Diploma in Financial Planning Information for Candidates and important notes for candidates, which is *essential reading* for all candidates. It is available online at www.cii.co.uk or from Customer Service.

In the examination

The following will help:

Spend your time in accordance with the allocation of marks:

- The marks allocated to each question part are shown on the paper;
- If a question has just two marks allocated, there are likely to be only one or two points for which the examiner is looking for, so a long answer is wasting valuable time.
- Conversely, if a question has 12 marks allocated, a couple of lines will not be an adequate answer. Always remember that if the paper is not completed, your chances of passing will be reduced considerably.
- Do not spend excessive time on any one question; if the time allocation for that question has been used up, leave some space, go on to the next question and return to the incomplete question after you have completed the rest of the paper, if you have time.

Take great care to answer the question that has been set.

- Many candidates leave the examination room confident that they have written a 'good' paper, only to be surprised when they receive a disappointing result. Often, the explanation for this lies in a failure to think carefully about what the examiner requires before putting pen to paper.
- Highlighting key words and phrases is a technique many candidates find useful.
- The model answers provided in this Examination Guide would gain full marks. Alternative answers that cover the same points and therefore answer the question that has been asked would also gain full marks.

Tackling questions

Tackle the three questions in whatever order feels most comfortable. Generally, it is better to leave any questions which you find challenging until you have attempted the questions you are confident about. Candidates' should avoid mixing question parts, (for example, 1(a)(i) and (ii) followed by 2(b)(ii) followed by 1(e)(i)) as this often leads to candidates unintentionally failing to fully complete the examination paper. This can make the difference between achieving a pass or a narrow fail.

It is vital to label all parts of your answer correctly as many questions have multiple parts to them (for example, question 1(a) may have parts (i), (ii) and (iii)). Failure to fully distinguish between the separate question parts may mean that full credit cannot be awarded. It is also important to note that a full answer must be given to each question part and candidates should not include notes such as 'refer to answer given in 1(b)(i)'.

Answer format

Unless the question requires you to produce an answer in a particular format, such as a letter or a report, you should use 'bullet points' or short paragraphs. The model answers indicate what is acceptable for the different types of question.

Where you are asked to perform a calculation it is important to show **all** the steps in your answer. The majority of the marks will be allocated for demonstrating the correct method of calculation.

Provided handwriting is legible, candidates will **not** lose marks if it is 'untidy'. Similarly, marks are not lost due to poor spelling or grammar.

Calculators

If you bring a calculator into the examination room, it must be a silent, battery or solar-powered, **non-programmable** calculator. The use of electronic equipment capable of being programmed to hold alphabetical or numerical data and/or formulae is prohibited. You may use a financial or scientific calculator, provided it meets these requirements. The majority of the marks will be allocated for demonstrating the correct method of calculation.

EXAMINERS' COMMENTS

Candidates' overall performance

Overall most candidates seemed to have completed a good level of preparation for the exam.

Question 1 tended to be the least well answered question and in particular the question parts testing practical knowledge of corporate bonds and investments trusts. Whilst candidates were able to list the risks of corporate bonds, many did not identify the more practical aspect that the Arctic Oil bond had a high risk of default or that a client may hold bonds maturing in different years to mitigate reinvestment risk. Calculations were generally well done and most candidates were able to calculate a yield to redemption. However, the question on duration which is an extremely important concept was not well answered.

The investment trust questions again showed a lack of practical knowledge of these products especially the C shares issue and what factors may cause a premium to narrow.

Candidates tended to score more highly on questions 2 and 3. Although few candidates answered the more challenging questions well, such as explaining why a share with a beta less than one would be expected to underperform the market benchmark and the question on passive strategies that weight on factors other than market capitalisation (sometimes referred to as smart beta) was not well answered.

Question 1

The AF4 examination regularly tests knowledge of gilts and corporate bonds and there are a few fundamental concepts such as duration, yield to redemption, the effect of interest rate changes and yield curves that should be well understood both in theory and practice.

Part (a)(i) was disappointing in that many candidates believed duration is simply the time to redemption of a bond or could only state that it is a measure of a bond's sensitivity to interest rate changes, which scored one of the five marks available. Few candidates were able to explain duration in sufficient detail to score high marks.

Part (a)(ii) was generally answered well. The fact that the price of a bond will fall as interest rates rise is another key concept and most candidates were able to state this. Most candidates were able to recognise that National Water would be more affected, although few candidates linked the expected effect on the bonds to their duration.

In part (a)(iii) most candidates obtained around half the marks available and recognised potential benefits such as meeting future liabilities and having more consistent income. Better prepared candidates considered mitigating reinvestment risk and interest rate/duration risk. Weaker candidates simply identified diversification benefits.

In part (a)(iv) a few candidates struggled on the calculation of the running yield of the bond portfolio making it more complex than was necessary. The easiest solution was simply to take the total coupons paid by the bonds and divide by the total price. Many candidates calculated individual running yields and then tried to weight them which produced the correct answer but was a longer and more complex method.

Candidates who scored poorly ignored the weighting element and simply averaged the yields.

In part (a)(v) it was pleasing that many candidates were able to calculate the yield to redemption correctly. The formula is included within the study texts and has been tested regularly and is another of those key concepts for bonds.

Some candidates calculated a capital loss at redemption which was clearly not the case with the bond trading at 75p and redemption at 100p

Part (a)(vi) was generally not well answered, which was disappointing as it showed a lack of knowledge about what actually drives bond prices in investment markets. For example, at the time of the examination the Premier Oil retail bond listed on Orb with 5 years to redemption and a 5% coupon was trading at around 60p. In the previous 12 months it had been as low as 38p.

Most candidates identified that the price of the bond was likely due to issues within the oil sector and Arctic as a company. To score full marks it was necessary to consider the possibility of default on both the coupons and redemption and few candidates did this. So, if the low oil price affects profits enough there is a chance of missing or suspending coupons or there not being sufficient funds to pay the redemption amount in full. This is most likely why Investors would sell the bond down to the price quoted.

It was interesting that in part (c) of question 1 the first risk of owning a bond that almost all candidates identified was default risk and yet in practice many were unable to recognise this in the Artic Oil bond.

In part (b)(i) most candidates recognised what was meant by the term accrued interest and that it would be added to the purchase price of the bond. Mention of clean and dirty prices was not needed although many candidates included this. A number of clients made reference to cum and ex dividend and confused the approach on share dividends with bond coupons.

In part (b)(ii) generally candidates did well on what is a key question, drawing out the important differences between equities and bonds given Paul's circumstances and objectives. Less well prepared candidates simply identified that the shares were higher yielding although there were 9 marks in total and better prepared candidates spent more time developing their answers to score higher marks. The risks of equities were generally well answered.

Part (c) was a fairly straight forward question that has been tested before and most candidates were able to identify and explain four or five risks. Better prepared candidates gave answers specific to UK corporate bonds rather than a list of generic risks.

This question was answered better than question 1 part (a) which tested the practical applications of many of the same risks e.g. using bonds maturing in different years to mitigate reinvestment risk, the effect of a 1% interest rate rise (interest rate risk) and a bond with a potential default risk.

In part (d) investment trusts are regularly tested in AF4 and it was pleasing that many candidates were able to calculate a premium to net asset value and explain how in practice gearing produces additional gains or losses for a fund rather than simply knowing that gearing is something investment trusts can use and that premiums or discounts can arise.

In part (d)(i) the calculation of the gearing ratio was general well answered.

In part (d)(ii) less well prepared candidates were still unable to identify the exact mechanism by which gearing can increase returns or simply said that the extra funds could be invested to generate a return without considering if this outweighed the cost of the debt.

In part (d)(iii) the calculation of the premium to net asset value was well answered.

In part (d)(iv) candidates still struggled on the reasons why a premium could narrow which is an important practical consideration in deciding whether to buy shares in an investment trust trading at a premium. Some candidates simply stated an increase in NAV would reduce the premium but this is only true if the share price does not increase at the same rate.

In part (d)(v) many candidates seemed to be confused by the issue of C shares which is a common practice when investment trusts seek to raise more money. A large number of candidates stated that the C shares would dilute the existing ordinary shares which is incorrect and is one of the main reasons that C shares are issued rather than new ordinary shares.

Most candidates recognised the discounted price but as the two funds are being run separately the main issue is that it will take time, perhaps as long as a year, to actually invest the cash raised. At launch, investors are simply buying a cash fund at a small premium to net asset value after factoring in issue costs. Until this is invested returns will be lower as cash yields very little and no dividends are likely.

Some candidates made the error of using the answer from a similar question about investing in an IPO from a recent examination paper. The issue of C shares for an existing investment company that seems to be highly regarded and will use the funds in a similar way to the ordinary shares is quite different from floating a new (non investment) company with no listed track record.

In part (e)(i) most candidates identified the differences around open and closed ended funds, company compared to trust and the fact the investment trust is listed. However, few candidates scored full marks. A typical mistake was when candidates did not address the specific question being asked. They often tended to list general differences between Investment Trusts and Unit Trusts rather than, specifically, differences in their structure.

In part (e)(ii) similarly most candidates were able to state two or three reasons why performance may differ including gearing and premiums/discounts both of which were covered in part (d).

Question 2

Part (a) was generally well answered with many candidates correctly calculating ROE and ROCE and also knowing why they are used and how they differ.

In part (a)(i) many candidates correctly identified the two components of shareholders funds.

In parts (a)(ii) and (iii) both calculations were reasonably well answered. However, a few candidates had the various components mixed up and occasionally the two formulas the wrong way round.

In part (a)(iv) the majority of candidates understood why ROE and ROCE are used to evaluate a share's return, with the better prepared candidates identifying the mark for how well or efficiently the assets are used.

In part (a)(v) most candidates correctly identified ROCE as being the more useful measure for comparing a company against its competitors as it accounts for long term borrowing. ROE is more useful in comparing returns on different investments and, unlike ROCE, can be heavily affected by differences in a company's capital structure.

In part (b)(i) most candidates correctly calculated the interest cover.

In part (b)(ii) most candidates correctly identified that the interest cover was over 3. However, a significant minority suggested this was a cause for concern as they were worried about possible future interest rate rises.

A quick calculation would have shown that the company is currently paying 4% interest on their debt and so the interest payments would still be covered until rates exceeded 12% which gives a large margin of safety in terms of debt. Similarly, profits would have to fall significantly and so the interest cover alone would not be a reason for concern.

The AF4 examination will often include analysis of company accounts and there will usually be some underlying issue that needs to be identified by candidates. In this case the interest cover was more than adequate, the concern was that the dividend was uncovered and this formed part (d) of the question.

In part (c) most candidates scored well, although some candidates were not precise enough in their explanation of a cyclical company and talked in vague terms about company prospects being influenced by the economy rather than being positively correlated. The question asked what the effect on profits and share price would be and some candidates did not address these or specifically state whether they would fall or rise.

Like all exams it is important to read the question carefully and answer the actual question asked.

A small number of candidates confused cyclical with seasonal. Many candidates gave a long explanation of the economic cycle although this was not required for this question. The better answers were concise and each point flowed logically from the one before on how the economy affects consumers and then company profits and share prices; for example there is a recession which means disposable income falls which means consumers cut back on luxury items which means the company sells less which means profits fall which means share price falls.

Part (d)(i) involved rearranging the dividend yield formula and most candidates were able to work back to the share price using the dividend payable and the yield. Those that got this question wrong tended to divide shareholder funds by the number of shares in issues.

Part (d)(ii) stated a need for steady income and low volatility and most candidates were able to identify that being cyclical the share could be volatile and dividends are not guaranteed. To score full marks it was also necessary to calculate that the dividend was not covered by profits. Again a concise, logical approach would score maximum marks by stating the objectives, identifying the issues and then explaining why these issues were incompatible with the objectives.

Question 3

In part (a)(i) given the importance of compound interest and present value calculations as a foundation of understanding and comparing investment returns it was a little disappointing to see many candidates still struggle with this type of calculation which is regularly asked in the AF4 examination.

In part (a)(ii) most candidates understood that the timing of the investments affected the returns. Although, a few candidates could explain exactly why this was and link it to the fact that some of the money may have missed a period of higher returns rather than simply being invested for less time. The average return calculated in (a)(i) above is unlikely to been achieved exactly in each individual year and in this case it was likely that the highest returns came in year 1 when the client had less money invested.

Part (b)(i) was straight forward and candidates had to simply state that the fund had outperformed both its competitor and the index and then identify that more risk had been taken.

Part (b)(ii) asked specifically about beta and alpha. Most candidates identified that beta was less than one and stated that this meant it would be “less volatile than the market”. However, some candidates did not link this back to the specific share and it’s actual performance, especially that it would be expected to underperform in a rising market and the fact that this was only marginally showed it had performed better than expected. The converse to this is that it may fall less than the market in a future downturn.

The explanations in respect of Alpha tended to be better.

In part (c)(i) most candidates were able to identify that the FTSE 100 is an index made up of the top 100 companies by market capitalisation which scored two marks. However, there were four marks available and to achieve the final two marks it was necessary to explain weighting and then also how the actual index number (for example 6,000) is calculated and hence be able to calculate changes in the index. Few candidates obtained all four marks. What appears to be a simple concept hides a more complex answer that few considered.

In part (c)(ii) the methods of tracking an index were well answered with many candidates scoring full marks.

In part (c)(iii) most candidates also scored well on the advantages and disadvantages of tracker funds although the relative merits of passive versus active fund management is a well discussed and tested subject and candidates didn't score quite as highly as expected.

Part (d)(i) was a question on passive strategies that weight on factors other than using market capitalisation (sometimes referred to as smart beta) was poorly answered. There are a large number of these funds in existence and candidates should be aware of the strategies that they employ.

In part (d)(ii) candidates struggled to define free cashflow which is used by a number of high profile fund managers but were able to score marks on price to book and dividend yield.

THE CHARTERED INSURANCE INSTITUTE

AF4

Advanced Diploma in Financial Planning

Unit AF4 – Investment planning

April 2016 examination

SPECIAL NOTICES

All questions in this paper are based on English law and practice applicable in the tax year 2015/2016, unless stated otherwise in the question, and should be answered accordingly.

It should be assumed that all individuals are domiciled and resident in the UK unless otherwise stated.

Candidates should answer based on the legislative position immediately BEFORE the 2016 budget.

Instructions

- Three hours are allowed for this paper.
- **Do not begin writing until the invigilator instructs you to.**
- **Read the instructions on page 3 carefully before answering any questions.**
- Provide the information requested on the answer book and form B.
- You are allowed to write on the inside pages of this question paper, but you must **NOT** write your name, candidate number, PIN or any other identification anywhere on this question paper.
- The answer book and this question paper must **both be handed in personally by you** to the invigilator before you leave the examination room. **Failure to comply with this regulation will result in your paper not being marked and you may be prevented from entering this examination in the future.**

Unit AF4 – Investment planning

Instructions to candidates

Read the instructions below before answering any questions

- **Three hours** are allowed for this paper which carries a total of 160 marks as follows:

- Section A: 80 marks
- Section B: 80 marks

- You are advised to spend approximately 90 minutes on Section A and 90 minutes on Section B.

- You are strongly advised to attempt **all** questions to gain maximum possible marks. The number of marks allocated to each question part is given next to the question and you should spend your time in accordance with that allocation.

- Read carefully all questions and information provided before starting to answer. Your answer will be marked strictly in accordance with the question set.

- You may find it helpful in some places to make rough notes in the answer booklet. If you do this, you should cross through these notes before you hand in the booklet.

- It is important to show all steps in a calculation, even if you have used a calculator.

- If you bring a calculator into the examination room, it must be a silent, battery or solar-powered, non-programmable calculator. The use of electronic equipment capable of being programmed to hold alphabetic or numerical data and/or formulae is prohibited. You may use a financial or scientific calculator, provided it meets these requirements.

- Tax tables are provided at the back of this question paper.

- Answer each question on a new page and leave six lines blank after each question part.

Subject to providing sufficient detail you are advised to be as brief and concise as possible, using note format and short sentences on separate lines wherever possible.

SECTION A

This question is compulsory and carries 80 marks

Question 1

Read the following carefully, then carry out **ALL** of the tasks **(a)**, **(b)**, **(c)**, **(d)** and **(e)** which follow.

Paul has an income objective and currently holds a portfolio of UK listed corporate bonds, in Table 1 below. He invested £10,000 in each issue at the par price of £100. Each coupon is paid annually.

Table 1

Company	Current Price £	Time to Redemption years	Coupon £
Arctic Oil	75	5	6
Alpha Property	105	4	6
Lending Bank	103	2	5
National Water	112	9	4
Direct Underwriting	101	5.5	5.5

Paul is considering a new investment of £10,000 into a bond issued by Mediscene, a FTSE 100 pharmaceutical company with a yield to redemption of 4%. As an alternative, Paul is considering buying shares in Mediscene priced at £2 with an annual dividend of 10p.

Paul has inherited the investment trust, in Table 2 below, invested in global equities.

The investment trust has a £2,500,000 bank loan fixed at 3%. The company has advised that they will be seeking to raise additional funds via a 'C' share offer in the next three months at a fixed price of 100p, which will be run separately from the existing shares but with the same investment approach, gearing and objectives.

Table 2

Company Name	Number of shares in issue	Current Price per share (p)	Net Asset Value per share (p)	Annual Dividend per share (p)
Global Equity Investment Trust	20,000,000	116	104	8

Questions

*To gain maximum marks for calculations you **must** show **all** your workings and express your answers to **two** decimal places.*

(a) **(i)** Explain what is meant by 'duration' for a corporate bond investment. **(5)**

(ii) Explain the likely impact on Lending Bank and National Water bonds in the event of an increase in interest rates of 1%. **(5)**

(iii) Explain why Paul may have chosen to select bonds that mature in different years. **(6)**

(iv) Calculate, **showing all your workings**, the running yield of the portfolio weighted by the current price of the bonds. **(4)**

(v) Calculate, **showing all your workings**, the simplified redemption yield of the Arctic Oil bond. **(5)**

(vi) Explain why the Arctic Oil bond price is significantly below the par price. **(4)**

(b) **(i)** The next coupon of the Mediscene bond is due in three months.

Explain briefly what is meant by the term 'accrued interest' and how this is treated in the purchase amount Paul would pay for the bond. **(3)**

(ii) Explain why Paul may choose to invest in the Mediscene shares rather than the bond and state the additional risk factors he should be aware of. **(9)**

(c) Identify and explain **five** risks of investing in UK based corporate bonds. **(10)**

(d) **(i)** Calculate, **showing all your workings**, the current gearing ratio of the Global Equity Investment Trust. **(4)**

(ii) Explain briefly how the gearing via the bank loan could enhance returns for the Global Equity Investment Trust. **(4)**

(iii) Calculate, **showing all your workings**, the current percentage premium to net asset value that the Global Equity Investment Trust is trading at. **(4)**

(iv) State **four** reasons that could cause the Global Equity Investment Trust premium to narrow. **(4)**

(v) State **two** potential advantages and **two** potential disadvantages of investing in the forthcoming 'C' share issue rather than buying the existing shares. **(4)**

(e) The manager of the Global Equity Investment Trust also runs a unit trust which is invested in a similar way.

(i) Explain **five** differences in the structure of the two funds. **(5)**

(ii) Explain why the performance of the Global Equity Investment Trust and the unit trust may differ. **(4)**

Total marks available for this question: 80

SECTION B

Both questions in this section are compulsory and carry an overall total of 80 marks

Question 2

Read the following carefully, then carry out **ALL** of the tasks **(a)**, **(b)**, **(c)** and **(d)** which follow.

John, who wishes to invest for a steady income, has identified a jewellery manufacturing company with suitable dividend payments called Luxury Goods plc. John would like to understand how to assess the quality of returns shown by the company, as he would not wish an investment exhibiting too much volatility.

The following data is extracted from the latest accounts of Luxury Goods plc. The company has 100 million shares in issue and the annual dividend per share is 60p which represents a dividend yield of 5%.

Luxury Goods plc	£million
Profit before interest and taxation	75
Interest paid	24
Taxation	4
Long term debt	650
Shareholders' funds	760

Questions

*To gain maximum marks for calculations you **must** show **all** your workings and express your answers to **two** decimal places.*

(a) **(i)** Identify the two components of shareholders' funds. **(2)**

(ii) Calculate, **showing all your workings**, the return on equity (ROE) for Luxury Goods plc. **(5)**

(iii) Calculate, **showing all your workings**, the return on capital employed (ROCE) for Luxury Goods plc. **(4)**

(iv) Explain why ROE and ROCE are used to evaluate a share's returns. **(3)**

(v) Explain which is the more useful measure when comparing Luxury Goods plc against its competitors. **(3)**

(b) **(i)** Calculate, **showing all your workings**, Luxury Goods plc current interest cover. **(3)**

(ii) State, giving your reasons, whether the company should be concerned with the level of interest cover based on your answer to part **(b)(i)** above. **(4)**

(c) John has read that Luxury Goods plc is a cyclical share.

Explain to John the meaning of a 'cyclical share' and why Luxury Goods plc might fall into that category, stating how this will affect the company's profits and share price. **(7)**

(d) **(i)** Calculate, **showing all your workings,** the share price of Luxury Goods plc. **(3)**

(ii) Explain, giving your reasons, why Luxury Goods plc may not be a suitable investment given John's objectives. **(6)**

Total marks available for this question: 40

Question 3

Read the following carefully, then carry out **ALL** of the tasks **(a)**, **(b)**, **(c)** and **(d)** which follow.

Martin is comparing the performance of the two UK Equity funds in his portfolio in the following table, which are benchmarked against the FTSE 100 Index. In light of the three year performance, he is considering selling the UK Undervalued fund and replacing it with a fund that tracks the Index.

Martin initially invested £5,000 in each fund in April 2013 and then a further £5,000 in April 2014 and 2015.

	3 Year Performance %	**Volatility**	**Beta**	**Sharpe Ratio**	**Alpha**
UK Undervalued fund	33	8.42	0.82	1.08	2.33
UK Growth fund	40	10.45	1.19	0.97	1.84
FTSE 100 Index	34				

Questions

*To gain maximum marks for calculations you **must** show **all** your workings and express your answers to **two** decimal places.*

(a) **(i)** Using the performance rate given in the table, calculate, **showing all your workings**, the annual rate of return for the UK Undervalued fund over the three year period. **(5)**

(ii) You have calculated the money weighted rate of return on the Undervalued fund is 7.9% per annum over the three year period.

Explain why this return differs from the return calculated in part **(a)(i)** above. **(3)**

(b) **(i)** Comment on the return of the UK Growth fund and the reason for its relative performance. **(3)**

(ii) Using the information given in the table, explain, giving your reasons, why an analysis of the data may cause John to reconsider selling the UK Undervalued fund, commenting specifically on the beta and alpha of his investments. **(6)**

(c) **(i)** Explain how the value of the FTSE 100 Index is calculated. *No calculations are required.* **(4)**

(ii) State **three** methods that a fund tracking the FTSE 100 Index may utilise. **(3)**

(iii) State **three** advantages and **three** disadvantages of an Index tracking fund compared to an actively managed fund. **(6)**

(d) Martin is aware of a passive strategy which weights companies in the FTSE 100 Index based on price to book value, free cashflow and dividend yield.

(i) Explain to Martin how this approach attempts to overcome some of the drawbacks of a traditional tracker. **(4)**

(ii) Explain to Martin how the price to book value, free cashflow and dividend yield are calculated. *No calculations are required.* **(6)**

Total marks available for this question: 40

NOTE ON MODEL ANSWERS
The model answers given are those which would achieve maximum marks. However, there are alternative answers to some question parts which would also gain high marks. For the sake of clarity and brevity not all of these alternative answers are shown. An oblique (/) indicates an equally acceptable alternative answer.

Question 1

(a) (i)
- Time period.
- Measured in years.
- Taking account of all cashflows including coupons and return of capital.
- For capital/initial investment to be returned.
- Measure of price sensitivity to changes in interest rates.

(ii)
- Price of both will fall.
- Roughly 1% for each year of duration.
- Yields will go up.
- Lending Bank price will fall less/National Water will fall more.
- Lending Bank has shorter duration/National Water longer duration.

(iii)
- Reduces reinvestment risk (risk of having to reinvest all maturity proceeds at same time).
- Reduces interest rate risk/duration risk.
- Reduces risk of default.
- To meet future liabilities (capital).
- Provides regular cashflows/can spread coupons throughout year.
- Diversification.

(iv) Average price = (75 + 105 + 103 + 112 + 101)/5 = 99.2

Average coupon = (6 + 6 + 5 + 4 + 5.5)/5 = 5.3

Running yield = 5.3/99.2 = 5.34%

(v) Running yield = 6/75 = 8%
Gain per year to maturity = 25/5 = 5
Gain per year as a percentage of price = 5/75 = 6.67%

Yield to redemption = 8% + 6.67% = 14.67%

(vi)
- Company might be in trouble/profits decrease.
- May default on coupon.
- May not pay the redemption value.
- In a sector that is struggling/out of favour.

(b) (i)
- Interest earned.
- From the last coupon date.
- Is added to the purchase price of the bond.

(ii) *Candidates would have gained full marks for any nine of the following:*

Why:
- Higher yield/better meets his income objective.
- Potential capital gain/inflation protection.
- Potential for increasing dividend.
- Open ended time frame/avoids reinvestment risk.
- Diversification.
- Potential tax advantages.

Risk factors:
- Dividend not as secure/could be cut.
- Share price could fall more than bond price.
- Share price more volatile.
- Lower priority on liquidation.

(c)
- Interest rate risk – rising interest rates reduce value of bonds.
- Credit/default risk – issuer may default on coupons or maturity value.
- Inflation risk – returns eroded by inflation.
- Reinvestment risk – receive maturing funds when interest rates are low.
- Political/Legislation/Tax risk – changes in legislation or tax may affect bond prices.

(d) **(i)** Value of assets = 20,000,000 x £1.04 = 20,800,000

Gearing = 2,500,000/20,800,000 = 12.02%

(ii)
- Can borrow.
- Invest borrowings.
- To get an excess return over 3%/cost of borrowing.

(iii) = 116 / 104 -1 x 100% = 11.54%

Alternative:
= (116 – 104)/104 x 100%
= 11.54%

(iv)
- Issue of new shares/increased supply/reduced demand.
- Sector out of favour/reduced sentiment.
- Investment manager falls out of favour/change of manager.
- Poor investment performance.

(v) **Advantages:**
- Can invest with no dealing costs at issue.
- 'C' shares will be issued at close to the net asset value/cheaper than existing share.

Disadvantages:
- Will take time to invest money raised/No dividend paid initially.
- Costs of the issue and investing funds raised.

(e) **(i)** *Candidates would have gained full marks for any five of the following:*
- Open ended/close ended.
- Public limited company versus trust/shares versus units.
- Directors/trustees.
- Appoint investment manager/in house manager.
- Listed on a stock exchange/non-listed.
- Single priced/dual priced.

(ii)
- Gearing.
- Changes in premium/discount.
- Different holdings/investment remit.
- Charging structure.

Question 2

(a) **(i)**
- Share capital (plus).
- Reserves/Retained profit.

Alternative
- Total assets (less).
- Total liabilities.

(ii) Net profit after interest and taxation/shareholders funds.

$$\frac{75 - (24 + 4)}{760} = 6.18\%$$

(iii) Profit before interest and taxation/capital employed.

$$\frac{75}{760 + 650} \times 100 = 5.32\%$$

(iv)
- Shows return/profit on capital/assets/shareholders funds and how well/ efficiently performed.

(v)
- ROCE, as it takes into account all assets/capital, including long term borrowings.

(b) **(i)** Profit before interest and tax/Gross Interest Payable.

75/24 = 3.125

(ii)
- No reason for concern.
- Profits would have to fall significantly (by 2/3).
- Interest on debt would have to rise significantly (treble).
- Interest covered by over three times/interest cover is high/adequate.

(c)
- Positively correlated with the economic cycle.
- People can do without/non essential goods.
- In recession/slowdown.
- Unemployment rises.
- Demand decreases.
- Profits fall.
- Share price falls.

Candidates could have given an alternative example of an upturn/boom which would have an opposite effect.

(d) **(i)** Rearranging the formula for the dividend yield gives the following:
60/0.05 = 1200p/£12.00

(ii)
- John needs a steady income.
- Share is cyclical.
- Dividends may be cut/not sustainable.
- Dividends exceed profits/dividend cover less than 1.
- Dividend not fixed.
- Too high risk/volatile.

Question 3

(a) **(i)** $((133/100)^{1/3} - 1) \times 100$
$1.33^{1/3}$ -1 x 100 = 9.97

(ii)
- Money weighted rate of return influenced by timing of cashflows/when money added.
- May have been good performance in periods where he had less money invested/lower performance when more money invested.
- Not straight line return.

(b) **(i)**
- UK Growth outperformed UK Undervalued.
- UK Growth outperformed Index.
- But taken more risk.

(ii)
- UK Undervalued beta less than 1/less than the market.
- In a rising market expected to underperform index.
- Expected to outperform index in a falling market.
- UK Undervalued alpha higher than UK Growth fund.
- UK Undervalued better stockpicking/manager added value.
- Better risk adjusted returns than UK Growth fund.

(c) **(i)**
- Top 100 companies.
- Weighted by market capitalisation.
- With reference to a starting point of 1,000.

(ii)
- Full replication.
- Sampling/simplified stratification.
- Optimisation/algorithm.
- Synthetic/derivatives.

(iii) *Candidates would have gained full marks for any six of the following:*

Advantages
- Many active managers fail to beat index/tracker will not significantly underperform the index.
- Lower charges.
- Easy to follow performance/easier to understand.

Disadvantages
- Cannot tailor portfolio to specific requirements.
- No opportunity to outperform.
- Index can be dominated by small number of stocks/sectors.
- Tracking error.

(d) **(i)**

- Stocks are selected based on fundamentals;
- No sector or stock will dominate/not based on market capitalisation.
- May lead to out-performance.
- Can tailor strategy to client.

(ii)

- Share price.
- Divided by net assets per share.

Alternative answer: Market Capitalisation/Net Assets.

- Operating cashflow/net cash after deducting capital expenditure.
- Dividend per share;
- divided by share price.

All questions in the October 2016 paper will be based on English law and practice applicable in the tax year 2016/2017, unless stated otherwise and should be answered accordingly.

The 2015/2016 Tax Tables which follow are those applicable to the October 2015 and the April 2016 examinations. The published Tax Tables can also be found online on the CII website: www.cii.co.uk.

INCOME TAX

RATES OF TAX	2014/2015	2015/2016
Starting rate for savings*	10%	0%
Basic rate	20%	20%
Higher rate	40%	40%
Additional rate	45%	45%
Starting-rate limit	£2,880*	£5,000*
Threshold of taxable income above which higher rate applies	£31,865	£31,785
Threshold of taxable income above which additional rate applies	£150,000	£150,000
Child benefit charge from 7 January 2013:		
1% of benefit for every £100 of income over	£50,000	£50,000

**Restricted to savings income only and not available if taxable non-savings income exceeds starting rate band.*

MAIN PERSONAL ALLOWANCES AND RELIEFS

Income limit for Personal Allowance *§*	£100,000	£100,000
Personal Allowance (basic if born after 5 April 1948) *§*	£10,000	£10,600
Personal Allowance (if born between 6 April 1938 and 5 April 1948) *§*	£10,500	£10,600
Personal Allowance (if born before 6 April 1938) *§*	£10,660	£10,660
Married/civil partners (minimum) at 10% *†*	£3,140	£3,220
Married/civil partners at 10% *†*	£8,165	£8,355
Transferable tax allowance for married couples/civil partners	N/A	£1,060
Income limit for age-related allowances *§*	£27,000	£27,700
Blind Person's Allowance	£2,230	£2,290
Enterprise Investment Scheme relief limit on £1,000,000 max	30%	30%
Seed Enterprise Investment relief limit on £100,000 max	50%	50%
Venture Capital Trust relief limit on £200,000 max	30%	30%

§ the Personal Allowance reduces by £1 for every £2 of income above the income limit irrespective of age (under the income threshold).
† where at least one spouse/civil partner was born before 6 April 1935.

Child Tax Credit (CTC)		
- Child element per child (maximum)	£2,750	£2,780
- family element	£545	£545
Threshold for tapered withdrawal of CTC	£16,010	£16,105

NATIONAL INSURANCE CONTRIBUTIONS

Class 1 Employee	Weekly	Monthly	Yearly
Lower Earnings Limit (LEL)	£112	£486	£5,824
Primary threshold	£155	£672	£8,060
Upper Accrual Point	£770	£3,337	£40,040
Upper Earnings Limit (UEL)	£815	£3,532	£42,385

Total earnings £ per week	CLASS 1 EMPLOYEE CONTRIBUTIONS	
	Contracted-in rate	Contracted-out rate (final salary)
Up to 155.00*	Nil	Nil
155.01 – 770.00	12%	10.6%
770.01 – 815.00	12%	12%
Above 815.00	2%	2%

**This is the primary threshold below which no NI contributions are payable. However, the lower earnings limit is £112 per week. This £112 to £155 band is a zero rate band introduced in order to protect lower earners' rights to contributory State benefits e.g. Basic State Pension.*

Total earnings £ per week	CLASS 1 EMPLOYER CONTRIBUTIONS		
	Contracted-in rate	Contracted-out rate	
		Final salary	*Money purchase*
Below 156.00**	Nil	Nil	Nil
156.01 – 770.00	13.8%	10.4%	13.8%
770.01 – 815.00	13.8%	13.8%	13.8%
Excess over 815.00	13.8%	13.8%	13.8%

*** Secondary earnings threshold.*

Class 2 (self-employed)	Flat rate per week £2.80 where profits exceed £5,965 per annum.
Class 3 (voluntary)	Flat rate per week £14.10.
Class 4 (self-employed)	9% on profits between £8,060 - £42,385. 2% on profits above £42,385.

PENSIONS

TAX YEAR	LIFETIME ALLOWANCE	ANNUAL ALLOWANCE
2006/2007	£1,500,000	£215,000
2007/2008	£1,600,000	£225,000
2008/2009	£1,650,000	£235,000
2009/2010	£1,750,000	£245,000
2010/2011	£1,800,000	£255,000
2011/2012	£1,800,000	£50,000
2012/2013	£1,500,000	£50,000
2013/2014	£1,500,000	£50,000
2014/2015	£1,250,000	£40,000
2015/2016	£1,250,000	£40,000 *§*

ANNUAL ALLOWANCE CHARGE

20% - 45% member's tax charge on the amount of total pension input in excess of the annual allowance.

MONEY PURCHASE ANNUAL ALLOWANCE	2014/2015	2015/2016
	N/A	£10,000*

LIFETIME ALLOWANCE CHARGE

55% of excess over lifetime allowance if taken as a lump sum.
25% of excess over lifetime allowance if taken in the form of income, which is subsequently taxed under PAYE.

§ increased to £80,000 from 6 April - 8 July 2015. If not used, can be carried forward to 9 July 2015 - 5 April 2016, subject to a maximum of £40,000.
** transitional rules apply to the calculation for pre/post 8 July 2015 position.*

CAPITAL GAINS TAX

EXEMPTIONS	2014/2015	2015/2016
Individuals, estates etc	£11,000	£11,100
Trusts generally	£5,500	£5,550
Chattels proceeds (restricted to five thirds of proceeds exceeding limit)	£6,000	£6,000

TAX RATES		
Individuals:		
Up to basic rate limit	18%	18%
Above basic rate limit	28%	28%
Trustees and Personal Representatives	28%	28%
Entrepreneurs' Relief* – Gains taxed at:	10%	10%
Lifetime limit	£10,000,000	£10,000,000

**For trading businesses and companies (minimum 5% employee or director shareholding) held for at least one year.*

INHERITANCE TAX

RATES OF TAX ON TRANSFERS	2014/2015	2015/2016
Transfers made on death after 5 April 2015		
- Up to £325,000	Nil	Nil
- Excess over £325,000	40%	40%
Transfers made after 5 April 2015		
- Lifetime transfers to and from certain trusts	20%	20%

For deaths after 5 April 2015, a lower rate of 36% applies where at least 10% of deceased's net estate is left to charity.

MAIN EXEMPTIONS

Transfers to		
- UK-domiciled spouse/civil partner	No limit	No limit
- non-UK-domiciled spouse/civil partner (from UK-domiciled spouse)	£325,000	£325,000
- UK-registered charities	No limit	No limit
Lifetime transfers		
- Annual exemption per donor	£3,000	£3,000
- Small gifts exemption	£250	£250
Wedding/civil partnership gifts by		
- parent	£5,000	£5,000
- grandparent	£2,500	£2,500
- other person	£1,000	£1,000

100% relief: businesses, unlisted/AIM companies, certain farmland/building
50% relief: certain other business assets

Reduced tax charge on gifts within 7 years of death:

- Years before death	0-3	3-4	4-5	5-6	6-7
- Inheritance Tax payable	100%	80%	60%	40%	20%

CAR BENEFIT FOR EMPLOYEES

The charge for company car benefits is based on the carbon dioxide (CO_2) emissions. There is no reduction for high business mileage users.

For 2015/2016:

- The percentage charge is 5% of the car's list price for CO_2 emissions of 50g/km or less.
- For cars with CO_2 emissions of 51g/km to 75g/km the percentage is 9%.
- For cars with CO_2 emissions of 76g/km to 94g/km the percentage is 13%.
- Cars with CO_2 emissions of 95g/km have a percentage charge of 14% and thereafter the charge increases by 1% for every complete 5g/km to a maximum of 37% (emissions of 210g/km and above).

There is an additional 3% supplement for diesel cars not meeting Euro IV emission standards. However, the maximum charge remains 37% of the car's list price.

Car fuel The benefit is calculated as the CO_2 emissions % relevant to the car and that % applied to a set figure (£22,100 for 2015/2016) e.g. car emission 100g/km = 15% on car benefit scale. 15% of £22,100 = £3,315.

1. **Accessories** are, in most cases, included in the list price on which the benefit is calculated.
2. **List price** is reduced for capital contributions made by the employee up to £5,000.
3. **Car benefit** is reduced by the amount of employee's contributions towards running costs.
4. **Fuel scale** is reduced only if the employee makes good **all** the fuel used for private journeys.
5. **All car and fuel benefits** are subject to employers National Insurance contribution's (Class 1A) of 13.8%.

PRIVATE VEHICLES USED FOR WORK

	2014/2015 Rates	2015/2016 Rates
Cars		
On the first 10,000 business miles in tax year	45p per mile	45p per mile
Each business mile above 10,000 business miles	25p per mile	25p per mile
Motor Cycles	24p per mile	24p per mile
Bicycles	20p per mile	20p per mile

MAIN CAPITAL AND OTHER ALLOWANCES

	2014/2015	2015/2016
Plant & machinery (excluding cars) 100% annual investment allowance (first year) *§*	£500,000	£500,000
Plant & machinery (reducing balance) per annum	18%	18%
Patent rights & know-how (reducing balance) per annum	25%	25%
Certain long-life assets, integral features of buildings (reducing balance) per annum	8%	8%
Energy & water-efficient equipment	100%	100%
Zero emission goods vehicles (new)	100%	100%
Qualifying flat conversions, business premises & renovations	100%	100%

Motor cars: Expenditure on or after 01 April 2015 (Corporation Tax) or 06 April 2015 (Income Tax)

CO_2 emissions of g/km:	75 or less*	76-130	131 or more
Capital allowance:	100% first year	18% reducing balance	8% reducing balance

**If new*

§ From 01 January 2016 allowance will decrease to £200,000.

CORPORATION TAX

	2014/2015	2015/2016
Full rate	21%	20%
Small companies rate	20%	20%
Small companies limit	£300,000	£300,000
Effective marginal rate	21.25%	20%
Upper marginal limit	£1,500,000	£1,500,000

VALUE ADDED TAX

	2014/2015	2015/2016
Standard rate	20%	20%
Annual registration threshold	£81,000	£82,000
Deregistration threshold	£79,000	£80,000

MAIN SOCIAL SECURITY BENEFITS

		2014/2015	2015/2016
		£	£
Child Benefit	First child	20.50	20.70
	Subsequent children	13.55	13.70
	Guardian's allowance	16.35	16.55
Employment and Support Allowance	Assessment Phase		
	Age 16 – 24	Up to 57.35	Up to 57.90
	Aged 25 or over	Up to 72.40	Up to 73.10
	Main Phase		
	Work Related Activity Group	Up to 101.15	Up to 102.15
	Support Group	Up to 108.15	Up to 109.30
Attendance Allowance	Lower rate	54.45	55.10
	Higher rate	81.30	82.30
Retirement Pension	Single	113.10	115.95
	Married	180.90	185.45
Pension Credit	Single person standard minimum guarantee	148.35	151.20
	Married couple standard minimum guarantee	226.50	230.85
	Maximum savings ignored in calculating income	10,000.00	10,000.00
Bereavement Payment (lump sum)		2,000.00	2,000.00
Widowed Parent's Allowance		111.20	112.55
Jobseekers Allowance	Age 18 - 24	57.35	57.90
	Age 25 or over	72.40	73.10
Statutory Maternity, Paternity and Adoption Pay		138.18	139.58