

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2019 Examinations

Subject SP5 – Investment and Finance Specialist Principles

Introduction

The Examiners' Report is written by the Chief Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

Mike Hammer
Chair of the Board of Examiners
December 2019

A. General comments on the aims of this subject and how it is marked

1. The aim of this Investment and Finance Principles subject is to instil in successful candidates the ability to apply, in simple situations, the principles of actuarial planning and control to the appraisal of investments, and to the selection and management of investments appropriate to the needs of investors.
2. A mix of questions styles is used, covering *knowledge* of the material set out in Core Reading, *application* of this in calculations and case studies and *higher order skills* such as synthesis and collation of recommendations. Marks are awarded for the constituent elements of calculations, not just for the final answer generated. Scenario appraisal will similarly provide credit for evidence of the issues considered, not solely for the conclusions reached.
3. Candidates who give well-reasoned points, not in the marking schedule, are awarded marks for doing so.
4. The examiners want to test the understanding of the candidates in relation to the principles of investment. In order to do that the candidates will be asked to demonstrate that they know how investors might behave and what various terms mean. It also requires candidates to calculate and interpret certain investment related figures. It is not expected that the candidates are experts in the investment area, however they should have an overall understanding of investment markets and the function and needs of the various parties involved.

B. Comments on *student performance in this diet of the examination*

Questions involving bookwork were usually well answered e.g. question 5, however questions requiring some thought often looked like candidates wrote down what they knew on the topic with no thought to the context of the question. The exam setting process involves detailed scrutiny of the questions, as a consequence the preamble to the question has been analysed and any extraneous information removed. This means that information in the preamble is relevant to the question and should be addressed in the answer. Those candidates who took the trouble to address these points generally scored more highly than those that didn't. Additionally when calculations are involved if some form of explanation is provided the examiners are better able to award marks when errors have occurred.

The paper lacked any time consuming calculations which meant most candidates seemed to have sufficient time to complete the paper.

C. Pass Mark

The Pass Mark for this exam was 58.

Solutions

Q1

(i)

(a)

$$\text{Fund A time weighted return} = (133/100)^{(1/3)} - 1 = 9.97\% \quad [1/2]$$

$$\text{Fund B time weighted return} = (270/200)^{(1/3)} - 1 = 10.52\% \quad [1/2]$$

(b)

The trustee is correct. [1]

However no account has been made of cash flows [1/2]

It may be different over longer periods. [1/2]

The performance targets for the two funds may be different [1/2]

However, an investment made in the middle of the period (e.g., on 31/12/16) could have done better in Fund A. [1]

[Max 3]

(ii) Fund A

If the cash flows are invested at the start of the year fund A money weighted rate of return is given by the solution of:

$$108(1+i)^3 + 5(1+i)^2 + 2(1+i) = 153.36 \quad [1/2]$$

$$\text{this gives } i = 10.33\% \quad [1/2]$$

If the commonly used approximation $(1+i)^3 \sim (1+3i)$ etc then the solution is 11.42%

If the cash flows are invested at the end of the year fund A money weighted rate of return is given by the solution of:

$$100(1+i)^3 + 8(1+i)^2 + 5(1+i) + 2 = 152.656 \quad [1/2]$$

$$\text{this gives } i = 10.61\% \quad [1/2]$$

If the commonly used approximation $(1+i)^3 \sim (1+3i)$ etc then the solution is 11.73%

Fund B

If the cash flows are invested at the start of the year fund B money weighted rate of return is given by the solution of:

$$102(1+i)^3 + 5(1+i)^2 + 8(1+i) = 151.829 \quad [1/2]$$

$$\text{this gives } i = 10.31\% \quad [1/2]$$

If the commonly used approximation $(1+i)^3 \sim (1+3i)$ etc then the solution is 11.37%

If the cash flows are invested at the end of the year fund B money weighted rate of return is given by the solution of:

$$100(1+i)^3 + 2(1+i)^2 + 5(1+i) + 8 = 150.565 \quad [1/2]$$

this gives $i = 10.41\%$ [1/2]

If the commonly used approximation $(1+i)^3 \sim (1+3i)$ etc then the solution is 11.51%

The correct answer is for cash flow to be invested at the start of the year as that is what the question implies, however those candidates who assumed investment at the end of the year also get credit. As there is no mid-year price those candidates who assumed a mid-year investment could only get half marks assuming there were no other errors.

[Max 2]

- (iii) Splitting the fund may increase diversification [1/2]
 And therefore reduced risk [1/2]
 The time weighted return only informs about performance of underlying funds over the whole period. [1/2]
 Whereas the money weighted return informs about the actual return achieved, allowing for the timing of new investments. [1/2]
 Investments in Fund A were weighted towards the beginning of the three-year period, whereas those in Fund B were weighted towards the end. [1]
 Funds A’s returns were best towards the end of the period, whereas Fund B’s returns were best towards the start. [1]
 Accordingly, more cash was invested in Fund A during periods of strong performance. [1]
 As a result, growth achieved in Fund A was higher, despite the TWRR being higher in Fund B. [1]
 The funds may have different performance targets [1/2]
 Or be invested in different asset classes [1/2]
 Fees have not been mentioned returns may be affected by fees [1/2]
 The funds may have taken different levels of risk [1/2]
 Perhaps risk adjusted measures should be studied [1/2]
 Longer time periods also need to be considered [1/2]

[Max 5]

[Total 10]

Marks were also given for other relevant points

While the calculations were not complex they still provided a challenge to some candidates. Where errors were made candidates were still able to gain marks by

commenting on the results they produced providing the comments were relevant to the results they had calculated.

Q2

(i)

- LDI is the terminology used to describe an investment decision where the asset allocation is determined in whole or in part relative to a specific set of liabilities. [1]
- LDI aims to reduce the investment risk associated with a pension scheme. [1]
- Under a LDI approach the underlying benchmark is more directly linked to the actual liabilities. [1]
- The benchmark for investing the assets changes as the underlying liabilities change. [1]
- This type of benchmark is often referred to as a dynamic liability benchmark. [½]
- Under an LDI approach it is possible to closely match:
 - The interest rate sensitivity (duration) of the liabilities [½]
 - The inflation-linkage of the liabilities [½]
 - The shape of the liabilities [½]
- Some investors will focus on matching cashflows whereas more on a ‘balance sheet’ hedging. [½]
- A combination of interest rate and inflation bearing assets can provide a close match of projected benefit cashflows, effectively immunising an investor against future changes in interest rates and inflation expectations. [½]

[Max 4]

- (ii) The main risks for a pension scheme arise as a result of the differing sensitivities of asset and liability present values to the two main factors. [1]

Interest rate risk [½]

- The present value of fixed rate cashflows payable in the future is linked to the interest rate used to value them. As interest rates rise, the value of the fixed rate liabilities fall and vice versa [1]
- The greater length of time (or duration) until the future cashflows are due to be paid the more sensitive the value is to a change in interest rates [1]
- Interest rate risk can be reduced by investing in instruments which match the duration and value of the fixed rate cashflows payable [1]

- Investments that are used to match duration include fixed rate bonds and interest rate swaps [1]
- PV01 is a measure of the sensitivity of the value of the liabilities to changes in interest rates – it is the change in present value of the liabilities due to a 0.01% change in interest rates [1]

Inflation risk [½]

- If an investor has liabilities linked to inflation, their present value will be sensitive to changes in inflation expectations. An investor would need to invest in assets with the same sensitivity to inflation expectations as the liabilities to reduce any mismatch in performance [1]
- In particular salary inflation. [½]
- Investments used to match inflation liabilities include inflation linked bonds, inflation swaps, infrastructure assets and property [1]

Longevity Risk [½]

The value of pension funds’ liabilities is sensitive to changes in longevity, the longer people live the greater the outlay from the funds. [1]

A number of pension funds enter into longevity swaps or longevity insurance policies that exchange fixed payments (‘premiums’ or expected payments to annuitants) in return for floating payments (‘claims’ or actual payments to annuitants). [1]

[Max 5]

(iii)

	Scheme A	Scheme B	Scheme C
PV01 (asset / liability)PV01 (liabilities)	£100k / £500k = 20%	£400k / £1000k = 40%	£800k / £1000k = 80%

[½ mark for each correct answer and ½ if all three correct]

If hedge ratio is defined as the reciprocal of the above full credit should be given.

[Max 2]

(iv) The following observations could be made:

All three schemes are under hedged [1]

Scheme A is the least well hedged and Scheme C is the most well hedged [1]

If interest rates were to fall (i.e. liabilities rise and assets rise broadly 80% of this change), then Scheme C is in the better position, as they are protected by up to 80% of the change from interest rates [1]

If interest rates were to rise (i.e. liabilities were to fall and assets fell by broadly 20% of this change), then Scheme A would benefit the most as it has the lower proportion of assets aligned to the changes in liabilities [1]

[Max 3]

[Total 14]

This was a well answered question. Candidates should note that if the question asks for TWO main points they will not gain marks by writing about three main points. Examiners will only give marks for the first two points on the paper.

Q3

(i)

- DJIA is unweighted arithmetic index [½]
- 30 constituents [½]
- Different composition in terms of sector & industry [½]
- S&P 500 is weighted arithmetic index [½]
- 500 constituents [½]
- Broadly-based, representing all sectors of the market [½]
- The DJIA doesn’t allow for dividend payments [½]
- The S&P 500 allows for dividend payments [½]

[Max 3]

(ii)

- To measure market movements [1]
- As a measure of short-term market movements [½]
- Providing a history of market movements [½]
- To estimate future movements in the market, based on past trends [½]
- Both indices can be used for these purposes ...
- ... as they reflect the overall direction and behaviour of markets [½]
- To use with portfolios [1]
- As a benchmark against which to assess the investment performance of portfolios [½]
- Valuing a notional portfolio [½]
- The S&P 500 is an investible index, so is a suitable benchmark representative of the overall market [½]
- The DJIA is not a good proxy for a real portfolio ... [½]
- ... due to its construction method [½]
- and concentration of constituents. [½]

- Analysing sub-sectors of the market [1]
- The S&P 500 is representative of the whole market, so is unsuitable for measuring subsectors. [½]
 - But sub-sectors of the S&P 500 could be used for this purpose. [½]
 - DJIA suffers from the same drawbacks due to construction methodology [½]
 - As a basis for index funds [1]
 - As a basis for derivative instruments [1]
 - S&P 500 suitable for both, as it is investible [½]
 - DJIA unsuitable for either as it's not an investible index. [½]
- [Max 9]

(iii)

Comparison of the two funds to the indices

- Funds hold significantly different holdings to the indices, especially the DJIA due to: [1]
- Different weightings [1]
- Active management decisions [½]
- Constraints on the fund [½]
- Funds accumulate income, indices are price only, tending to increase the value of funds [½]
- Transaction, custody and other costs will tend to reduce returns [½]
- Funds will need to hold some cash for liquidity purposes
- Funds will subject to withdrawals and/or injections which may distort performance [½]
- Manager fees [½]
- Taxation [½]

Comparison of two indices

- DJIA disproportionately influenced by highly priced shares [½]
- Economic factors – Different sector exposures, so different responses to economic cycle. [½]
- S&P weighted to largest shares by market cap [½]

[Max 5]

(iv)

The question does not specify whether or not the XD adjustment is reset to zero at the end of the year.

If the XD adjustment is reset the total return over two years is given by:

Total return in year 1 * Total return in year 2

i.e $(110/(100-(5-0))) * (120/(110-(10-0)))$ [1]

$= 1.158 * 1.2 = 1.39$ i.e, 38.9% [1]

If the XD adjustment isn’t reset the total return is given by:

$(110/((100-(5-0))) * (120/(110-(10-5))))$ [1]

$= 1.158 * 1.143 = 1.32$ i.e 32.3% [1]

[Max 2]

[Total 19]

This question was well answered, most candidates knew how the S&P 500 and Dow Jones Industrial Index were constructed. Those that didn’t usually managed to gain marks in parts ii & iii of the question. Part iv proved the most difficult part of the question, however candidates who explained what they were doing were often able to gain marks.

Q4

- (i) Large banks [½]
- Central banks [½]
 - Currency speculators [½]
 - Multi-national corporations [½]
 - Governments [½]
 - Other institutions [½]
 -

[Total 3]

- (ii) If the manager exchanged \$1 today, he would receive $1/1.15 = \text{€}0.8696$. [½]
- In six months, this will become $\text{€}0.8696 \times 1.005^{0.5} = \text{€}0.8717$. [½]
 - In six months, \$1 would increase to \$1.0124. [½]
 - This corresponds to an exchange rate of $1.0124 / 0.8717 = 1.1614$. [½]
 - By implication, this is the spot exchange rate the market is expecting on 1 October. [½]
 - The manager expects the rate to be 1.16 \$ per € which is **lower** than the expected spot rate, so the dollar is stronger than expected [½]
 - Assuming the forward is priced correctly [½]
 - They should therefore **buy** the forward contract (i.e., contract to buy dollars and sell euros). [1]

[Max 4]

(iii)

- If the manager contracts to buy x dollars in October, then $\frac{x}{1.1614}$ euro will need to be sold under the forward contract. [1]
 - However, the value of those dollars will actually be $(\frac{x}{1.16})$ euro if the manager is correct. [1]
 - The profit, in euro, will therefore be $\frac{x}{1.16} - (\frac{x}{1.1614})$... [½]
 - ... and the profit in dollars will be $1.16 \times \{ \frac{x}{1.16} - (\frac{x}{1.1614}) \}$ [½]
 - The required profit is \$100,000, so $x = \$82.957\text{m}$ [1]
 -
- [Total 4]

(iv)

- The capital at risk is large for the potential profit [1]
- The overall size of the fund [1]
- Is the risk the trade adds proportionate, allowing for other positions in the fund? [½]
- Past volatility of the \$ vs euro [½]
- The possibility that volatility could increase, increasing risk [½]
- If the exchange rate (\$ per €) increases by more than expected, the manager could suffer a large loss. [½]
- Transaction costs could exceed the profits [½]
- Changes in \$ or € interest rates will affect the profitability [½]
- The liquidity in the market [½]
- The ability to provide collateral [½]
- Is the forward priced correctly [½]

[Max 5]

[Total 16]

This question proved to be the most challenging question on the paper, in particular the calculations in parts ii and iii. When the answer given was incorrect, candidates who provided some explanation of what they were trying to calculate generally scored more highly than those who just wrote numbers down without any explanation.

Q5

The Trustees should:

- Act with integrity at all times [½]
- Act with due care and diligence [½]
- Comply with any code or standard in force and as it applies to the Trustees (either according to its terms or by rulings made under it). [½]
- Identify and address any conflict of interest [½]
- Ensure that the assets of the scheme are protected by way of segregation and identification once in the hands of the external fund manager. [½]
- Ensure that proper records are kept. [½]

Ensure that good relations are kept with regulators and that the regulators are kept informed of any developments within the scheme. [½]

Effective decision-making [½]

Decisions should only be taken by persons or organisations with the skills, information and resources necessary to take them effectively [½]

Decisions will be made in the best interests of the members [½]

Clear objectives [½]

Recommendations for the principles underlying legislation and the regulation of pension fund investment practices can be summarised as follows. Trustees should set out an overall investment objective for the fund that:

- Represents their best judgement of what is necessary to meet the fund’s liabilities [½]
- Takes account of their attitude to risk, specifically their willingness to accept underperformance due to market conditions [½]
- Objectives for the overall fund should not be expressed in terms which have no relationship to the fund’s liabilities, such as performance relative to other funds or to a market index [½]

Focus on asset allocation [½]

- Strategic asset allocation decisions should receive a level of attention that fully reflects the contribution they can make towards achieving the fund’s investment objective [½]
- Decision-makers should consider a full range of investment opportunities, not excluding from consideration any major asset class [½]
- Asset allocation should reflect the fund’s own characteristics, not the average allocation to other funds [½]

Expert advice [½]

- Contracts for actuarial services and investment advice should be opened to separate competition. [½]
- The fund should be prepared to pay sufficient fees for each service to attract a broad range of kinds of potential providers [½]

Explicit mandates [½]

Trustees should agree, with both internal and external investment managers, an explicit written mandate covering agreement between trustees and managers on:

- An objective, benchmark(s) and risk parameters that, together with all the other mandates, are coherent with the fund’s aggregate objective and risk tolerances [½]
- Any ethical considerations [½]
- The manager’s approach in attempting to achieve the objective [½]
- Clear time scales of measurement and evaluation [½]
- The mandate should not exclude the use of any set of financial instruments without clear justification in the light of the specific circumstances of the fund. [½]

- How contributions will be received [½]
 - How income should be treated [½]
- Activism** [½]
- Managers should incorporate an explicit strategy on activism, explaining the circumstances in which they will intervene in a company, the approach they will use in doing so and how they measure the effectiveness of this strategy [½]
- Appropriate benchmarks** [½]
- Trustees should:
- Explicitly consider, in consultation with the investment manager, whether the index benchmarks they have selected are appropriate [½]
 - If setting limits on divergence from an index, ensure that they reflect the approximations involved in index construction and selection [½]
 - Consider explicitly, for each asset class invested, whether active or passive management would be more appropriate given the efficiency, liquidity and level of transactions costs in the market concerned [½]
 - Where they believe active management has the potential to achieve higher returns, set both targets and risk controls that reflect this, giving managers the freedom to pursue genuinely active strategies [½]
- Performance measurement** [½]
- Trustees should arrange for measurement of the performance of the fund and should make formal assessment of their own procedure and decisions as trustees. [½]
 - They should also arrange for a formal assessment of performance and decision-making delegated to advisers and managers [½]
- Transparency** [½]
- A ‘Statement of Investment Principles’ (SIP) should set out
- Who is taking which decisions, and why this structure has been selected [½]
 - The fund’s investment objective [½]
 - The fund’s planned asset allocation strategy, including projected investment returns on each asset class, and how the strategy has been arrived at [½]
 - The mandates given to all advisers and managers [½]
 - The nature of the fee structures in place for all advisers and managers, and why this set of structures has been selected [½]
- Effective operations** [½]
- The selection of managers should also consider operational aspects, such as the separation of front office and back office functions [½]
- Regular reporting** [½]

- Trustees should publish their SIP and the results of their monitoring of advisers and managers, and send them annually to members of the fund [½]
- The SIP should explain why the fund has decided to depart from any of these principles [½]

[Max 12]

[Total 12]

Unsurprisingly this question was well answered as it was bookwork. Many candidates gained full marks.

Q6

- (i) Systematic risk, (also known as market risk) [½]
is the risk relating to changes in the value of the portfolio due to movements in the market value of the assets held. [½]

Unsystematic risk, (also known as specific risk) [½]
is the risk relating to the uncertainty associated with the investment as a standalone entity [½]
and can be reduced by diversification [½]

[Max 2]

- (ii)
- a. The beta of a portfolio is a measure of the portfolio’s volatility relative to the market as a whole. [1]
 - b. A beta of 1.5 means the change in the value of the portfolio should be 50% greater than the change in the value of the market. [1]

[Total 2]

- (iii) $\text{Beta} = \text{covariance} / \text{variance} = 0.665 / 0.5 = 1.33$ [1]

- (iv) The target beta is 1.5, however the portfolio has a beta less than the target [1]
The fund manager could buy more high beta stocks i.e. with a beta above 1.5 [½]
Or they could sell stocks with a low beta [½]
Or they could add leverage to the fund [½]
Or they could use derivatives [½]

[Total 3]

- (v) Advantages:
- CAPM uses the beta of a stock as a measure of risk. [½]
 - It is easy to calculate [½]
 - In the short term it may be a good proxy for risk [½]
 - Easy to understand/communicate [½]
- Disadvantages:
- It is an historic measure and [½]
 - Therefore doesn’t incorporate new information [½]
 - Therefore as a company changes it becomes a less good measure or risk [½]
 - Past price movements are not a good way of predicting the future [½]
 - If the stock trades infrequently its beta will not be accurate [½]
 - Subjective choice of time period for calculation [½]
- Ignores other types of risk [½]
 - Ignores other factors affecting performance (e.g. differing objectives, constraints) [½]
- Stakeholders (e.g. regulators) may prefer other metrics. [½]
- [Max 4]

- (vi) The two investments should mirror each other as closely as possible as the closer they are the better the hedge [1]
- They should both be in the same industry i.e. banking [½]
 - They should therefore have similar types of operations e.g. a similar mix of retail and investment banking. [½]
 - They should have similar geographic exposure [½]
 - They should have similar currency exposure [½]
 - They should both be sufficiently marketable for the fund manager to take their required position. [½]
 - They should have similar betas [½]
 - They should have similar values [½]
 - They should have similar financial structures (e.g. gearing) [½]
- [Max 4]

[Total 16]

The earlier parts of the question were generally well answered, however the answers to part vi often demonstrated a lack of understanding of how market neutral hedge funds operated. Overall the marks gained in the earlier parts meant that the question was reasonably well answered.

Q7

- (i)

Ethical does not have a universal definition and therefore the fund manager will need to define what is meant by ethical.	[½]
Ethics can cover a large area from the operations in which the company engages to the management structure of the company.	[½]
The definition will have to include industries in which investments are not going to made.	[½]
It also needs to be decided if a formal commitment is made to adopt an ethical strategy or alternatively it is just an aspiration.	[½]
While some exclusions are easy to establish e.g. companies using child labour.	[½]
There are also some industries that some would not invest in while others might e.g. alcohol and cigarettes.	[½]
Issues arise in industries such as retailing, the retailer may sell cigarettes but doesn’t produce them.	[½]
If a company’s production is sub contracted top a company that uses child labour should the company be classed as unethical if it was unaware of this practice.	[½]
Should the company’s management structure comply with all relevant corporate governance codes to be classed as ethical?	[½]
Does the ethical need to actively support certain industries such as green energy?	[½]
If a company only has a small exposure to something deemed unethical can an investment be made?	[½]
If pollution is regarded as unethical is a company that can’t avoid pollution but seeks to minimise it regarded as unethical.	[½]
A company may not keep sufficiently detailed records to determine whether or not they are ethical in certain respects.	[½]
For instance having diverse employees can be regarded as ethical,	[½]
however some companies may not record all the necessary information to determine if they adhere to a policy regarding diversity.	[½]
It may involve investing in certain areas e.g. green energy	[½]

½ mark may be awarded for reasonable statements describing ethical strategy.

(ii)

The issues faced by the fund manager are:	
Do they have the expertise to run the fund	[½]
How they define what they mean by ethical	[½]
Do ethical investment produce the same level of income	[½]
Will investing in ethical companies change the risk profile of the fund	[½]
Will the holdings within the fund become more correlated	[½]
Will ethical investment result in lower returns	[½]
If it does will this mean it does not retain and/or attract clients	[½]
How they communicate the change to clients	[½]
Have the existing clients been consulted	[½]
What arrangements have been made for clients that don’t want to transition	[½]
What benchmark should be used	[½]
What will be the transition costs	[½]
Will there be additional tax to be paid	[½]
Who will pay these transition costs	[½]
What is the penalty for purchasing an unethical stock	[½]

½ mark may be awarded for any other reasonable issue

[Max 4]

(iii)

If the investment company do not have the expertise to run the fund they have three options:

To hire additional staff with the required expertise. [½]

To train some of the existing staff. [½]

To subcontract the running of the fund to a third party. [½]

All these options will involve extra cost. [½]

The investment company need to inform the clients, the information needs to contain:

What returns the ethical fund are targeting [½]

Both on terms of capital growth and income [½]

The alternatives for those clients who don’t wish to transition

- is there an alternative fund [½]

- can the clients cash in their holding without penalty [½]

What benchmark is being used [½]

What the transition costs will be and who will pay them [½]

If the transition is gradual it may be possible to migrate the fund with normal trading [½]

The investment management company need to establish rules regarding the action to be taken if a company becomes ‘unethical’ [½]

And what happens if the fund invests in an unethical stock [½]

The investment company may look at a company’s ESG report to help decide whether or not it can be classed as ethical [½]

[Max 4]

[Total 13]

With increased interest in ethical investment it was disappointing to see that this question was not answered well. A lot of candidates failed to appreciate that there was no universal definition of what ethical means.

[Paper Total 100]

END OF EXAMINERS’ REPORT