



OC: FINANCIAL MARKETS PRACTITIONER (SAQA ID: 117238)
External Integrated Summative Assessment (EISA)

EXEMPLAR PAPER 1

Note: This exam is orientated towards learners operating within the licensed stock exchange and associated fields, and therefore the final exams will have optional alternative questions for learners operating within the portfolio or asset management and pension fund related fields.

DATE OF PAPER	Exemplar Paper
ASSESSOR	Gordon Rennie/ Kashnie Naidoo
WRITING TIME	3 Hours
READING TIME	15 Minutes
TOTAL EXAM TIME	3 Hours 15 Minutes

1. This examination is a closed book examination and is designed to be completed within two (2) hours and 45 minutes, although 3 hours writing time are allowed. In addition, 15 minutes reading time, before the official start of the examination, has been allocated.
2. Please check that **ALL** the required questions have been answered.
3. Please refrain from putting your name and surname anywhere on the written answer books.
4. Questions must be answered in the **Answer Books provided**.

5. Please note that there is no need to elaborate outside of the scope of the question. Lengthy answers are unnecessary. Provide concise and explicit answers.
6. The total marks for Paper 1 are 168. A pass mark for Paper 1 is **50% (i.e. 84/168)**.
7. There are three (3) sections to the examination Part A:

SECTIONS	MARK ALLOCATION
SECTION A <i>Answer all questions from this section</i>	98
SECTION B <i>Answer all questions from this section</i>	62
SECTION C <i>Answer all questions from this section</i>	8
TOTAL (PAPER 1)	168

8. Each question in Sections A and B must be answered on a new page. Questions may be answered in any order and **MUST** be clearly numbered.
9. A non-programmable calculator may be used. No mobile devices or any other form of electronic devices are permitted.
10. All answers must be written in black or blue ink in the required answer book/s. No answers written in pencil will be marked. Answers must be legible.
11. All forms provided are to be completed.

Case Study

for questions 1 to 6

You have completed your FMP qualification and have been hired by Investment Ace (Pty) Ltd, a stockbroking firm that also provides asset management services. Investment Ace is an authorised user of the JSE, ZarX and A2X, three licensed exchanges in South Africa. Your supervisor is a Stockbroker and expects you to assist in easing her increasing workload. She has several private and institutional clients, which are divided into three broad classes, these being: Private Clients, Pension Funds and Asset Managers. The private clients consist of both discretionary and non-discretionary clients. The two institutional client classes (Pension Funds and Asset Managers) are all non-discretionary clients.

The firm's standard broking and portfolio fees are:

- Portfolio take-on and structuring fee: A once-off fee of 1,5% on value of funds for structuring provided by client;
- Portfolio management fee: An annual fee of 1% of the assets under management, which is start value of structured portfolio at the beginning of each calendar year;
- Brokerage of 0,4% on private client buy or sell transactions; and
- Brokerage of 0,2% on institutional client buy or sell transactions.
- All fees are exclusive of VAT and STT which are the official rates.

Question 1**(14 marks)**

Investment Ace (Pty) Ltd uses a mandate for the three classes of client, all of which must follow the format required by the exchanges as their direct regulator and must conform with the relevant legislation, regulations and rules. Each new client take-on requires the asset management and trading team to complete the appropriate mandate with the client and these must be approved by your compliance department.

You have been tasked with highlighting the following in terms of each of the three client categories. Specify unique issues relevant to the client's investment needs and requirements in terms of each class in terms of these specific questions:

- 1.1 Provide a short explanation of the following three concepts or terms:
- 1.1.1 Market Liquidity (1,5 marks)
 - 1.1.2 Discretionary Clients (1,5 marks)
 - 1.1.3 Behavioural Economics (2 marks)
- 1.2 Specify 2 important elements relevant to your Pension Fund clients (2 marks)
- 1.3 Specify 2 important elements relevant to your Asset Managers (2 marks)
- 1.4 Draw a Supply and demand curve, labelling the Supply Curve, The Demand Curve, their intersection, the vertical and the horizontal axis (5 marks)
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Case Study continued:

In addition to the information above, the following specifically applies to questions 2 to 5.

You have been allocated a new private client, Mr. David Jones, who is a director of a listed company, ABC Ltd. David Jones is currently 54 years old and has two children, John and Paul, with his wife Stella. Stella is also 54 and is a member of parliament for the ANC. John has just finished writing his matric and will be going to Wits while Paul is going into grade 11 at St Johns College. Both David and Stella will retire at the age of 65.

David and Stella have stated that:

- i. The monthly draw-downs must be funded by coupon payments from a government bond investment you must make for their portfolio.
- ii. They feel that in the wake of Covid, interest rates will be declining over time.
- iii. They are concerned about the post Covid future economic outlook and have stated they do not like a cumbersome portfolio. In terms of direct equity investments, they want a relatively concentrated portfolio of only 4 different securities, which must be from the list of qualifying securities provided in the annexures – (Information Sheets attached to the exam paper). They are brokerage averse but instruct you to sell 4000 of their Anglos to allow the purchase of the Govt Bond, another 2 equities as well as STX40 ETF's.

- iv. They want all revenues from their cash and share sales to be applied first to the minimum R150 000 safety net, then to the bond purchase and remainder to be allocated roughly 50% to other shares and 50% to JSE Satrix STX40 ETF's.
- v. The specific trading costs involved in any securities sales or purchases must come out of that classes allocation and may therefore slightly skew the asset class allocations, which for the purpose of your answer is acceptable.
- vi. Since the Covid pandemic they have developed a moral requirement not to hold any invests in either tobacco or alcohol company shares.
- vii. They want all annual returns from the portfolio to be invested into the foreign market index ETF (STX500) they currently hold. None of this ETF may be sold.
- viii. They hold two foreign bank accounts which must be retained, and their interest capitalized in these foreign accounts. These accounts will form part of the portfolio you must manage and any South African tax payable on interest they earn in these accounts must be deducted from rand earnings in the portfolio.

David and Stella would like you to provide a complete joint investment proposal (i.e. the solution to this question is one portfolio) which must comply with their communicated needs listed above and the KYC below.

Note: Your solution must be structured in terms of the relevant questions, Q2 to Q5.8 below, using the information provided in the case study as well as the authorised securities, taxes and other relevant information provided in the Annexures herein.

You also determine in your KYC/Needs analysis that:

- David currently earns R60 000 pm after tax and deductions.
- Stella earns R50 000 pm after tax and deductions.
- Their accountant and tax advisor has calculated that they require an additional R12 000 per month for this year to fund their living expenses.
- They require a withdrawal or draw-down from the portfolio to cover this shortfall.
- They will fund the monthly shortfall amounts from their credit cards but will require the aggregated monthly shortfall amounts to be refunded from the portfolio from the bond coupons from the government bond investment you have been instructed to make for the portfolio. This monthly shortfall amount must be increased by 7,5% annually for the next four years, after which David can sell his shares in ABC Ltd to fund these. The bonds coupons must be sufficient to cover this amount after 4 years of escalations.

- They would also like an emergency amount of a minimum of R150 000 held in an interest-bearing account.

The portfolio that will be handed to you by the Jones' couple for restructuring consists of the following:

1. Cash in bank (assume amount will be transferred to your firm on start date of the portfolio for asset class allocation or deposit into JSET): R435 000.
2. Shares in current Jones' portfolio which are available for restructuring:

Portfolio of the following JSE listed shares:		
Security Name	Exchange Code	Number of shares
Anglo American	AGL	8 000
Aspen Pharmacare	APN	4 500
British American Tobacco Plc	BTI	3 000
Distell Group Holdings	DGH	10 000

3. JSE Exchange Traded Fund they hold:

ETF	Fund Detail	No. of units
STX500	Satrix ETF on S&P 500 (USA Nasdaq)	11 000

4. Foreign bank accounts:

		Balance
4.1.	US Dollar account currently has a balance of:	\$17 586
4.2.	UK Pound sterling account currently has a balance of:	£14 965

Question 2

(12 marks)

Document the needs analysis for the Jones family.

It is also vital in terms of your mandate that you ensure coverage (i.e. the documenting) of all the client's needs and requirements.

- 2.1 Show the needs analysis and KYC requirements and findings for the Jones'. (9 marks)

- 2.2 Provide a table showing the monthly and annual draw down requirements from the portfolio of the Jones' with the relevant escalation for 4 years. (3 marks)
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Question 3 (5 marks)

Provide two investment strategies your firm may employ with a short explanation of what each of these strategies involves in terms of the Jones'?

Question 4 (6 marks)

Explain your investment process in terms of the Jones'?

Note: For purposes of the following questions, use the existing portfolio and cash reserves of the Jones family as provided in the paper

Question 5 (61 marks)

Using the **Investment Return Spreadsheet** provided with the exam paper, as well as supporting calculations, complete the quantitative element of the Jones's portfolio proposal in terms of their needs analysis and requirements.

- 5.1 Calculate the value of the portfolio provided by the Jones' before any actions you propose are taken? (6 marks)
- 5.2 Provide client with a summary of what you intend doing with the portfolio provided by the Jones' as determined in Q 5.1. above. These proposed actions must be informed by the clients needs analysis and requirements? This is shown as calculations on exam answer sheet and is basis for entries on **Investment Return Spreadsheet** (6,5 marks)
- 5.3 Calculate the brokerage cost including taxes on the following for the Jones': (7 marks)
- 5.3.1 Buy transactions. (1,5 marks)
 - 5.3.2 Sell transactions. (1,5 marks)
 - 5.3.3 What is your net revenue from share sales after brokerage costs (4 marks)

- 5.4 What amount of money do you have after carrying out the clients instructions to: (5 marks)
- 5.4.1 Invest in Money Market, Bonds, Equities and Satrix STX40 (4 marks)
- 5.4.2 After your JSE MM allocation (1 mark)
- 5.5 In terms of the clients requirement (8 marks)
- 5.5.1 Which bond must you buy and why? (2 marks)
- 5.5.2 How much must be spent on bonds: Cost and Face value? (6 marks)
- 5.6 Using the clients' instructions and your answer above, provide the following: (12 marks)
- 5.6.1 How much money is available to buy equities and STX40's ? (3 marks)
- 5.6.2 What equities will you buy, and what is the respective spend. Show prices including relevant brokerage and taxes (6 marks)
- 5.6.3 What is the spend on Satrix STX40, show prices including relevant brokerage and taxes (3 marks)
- 5.7 Using the **Investment Return Spreadsheet** provided, populate the document with the proposed portfolio for the Jones' as well as the likely aggregate values per security, trading costs, net of cost values, yields, taxation and after tax returns. (13,5 marks)
- 5.7.1 Provide asset class allocations and securities in equity asset class allocations (%) and calculate management fee.
Populate Investment Return Spreadsheet with figures and answers.
- 5.7.2 Populate remainder of Investment Return Spreadsheet with figures and totals so as to calculate:
- The pre tax return (R and %);
 - The tax amount (R and %);
 - The after tax return of the portfolio (R and %); and
 - The New Invested Value of the portfolio at end Year 1.
- 5.8 What amount of the return will be invested in the portfolio at the start of Year 2, including disbursements of Jones' shortfall. (3 marks)
-

Section B**[62 Marks]****Question 6****(5 marks)**

Your client is considering purchasing Eco Ltd shares which are very sensitive to the business cycle phases. The client wants your advice in terms of what the business cycle is likely to do within 3 months. You agree to consult the firms economist in terms of the business cycle outlook and the sector analyst in terms of the likely share price move given the economists projections.

The economist provides 4 scenarios with the respective probability of each occurring. The analyst provides the likely share price move given each of these 4 scenarios. The information is summarised in the table below:

Business cycle in the next 3 months	Probability	Eco Ltd likely share price move
Contraction Phase continuing but not becoming a recession	.18	Increase by 0,5%
Contraction Phase becoming a full-blown recession	.22	Fall by 14%
Business cycle entering a recovery phase	.45	Increase by 10%
Business cycle entering a prosperity phase	?	Increase by 19%

- 6.1 What is the probability of the business cycle entering a prosperity phase? (1 mark)
- 6.2 What is the expected price move of Eco Ltd given the information above? (2 marks)
- 6.3 Explain what you would advise this client to do in terms of Eco Ltd? (2 marks)

Question 7**(5 marks)**

You are provided with the following information.

Share	Code	Share Price (Cents)	No Shares (a)	PE	DY
ABSA Group Ltd	ABG	11970	847 750 679	13.59	4.07
Nedcor Group Ltd	NED	12713	502 054 496	8.09	4.28
Standard Bank Group Ltd	SBK	12952	1 619 941 184	9.35	3.29

Using this information, answer the following questions:

- 7.1 Calculate the market capitalisation of each of the three shares? (1,5 marks)
- 7.2 Rank the three banking companies based on their value from biggest to smallest? (1 mark)
- 7.3 Calculate the relevant group earnings of the share with the highest price earnings ratio? (2,5 marks)

Question 8**(30 marks)**

Adam Levine is a newly appointed portfolio manager at Able Securities (Pty Ltd). He is very keen to get new clients signed up to make a good impression on the management.

He meets with Mr. Chung-Ho Kim, a potential new client. He is a resident of Democratic People's Republic of Korea (DPRK) (FATF high risk jurisdiction) who has recently moved to South Africa.

They meet at Able Securities on Monday 01 February 2020 at 10am. My Kim informs Adam that has R6 000 000 to invest, he further advised that he the funds are his life savings, and he has no real experience in investing in stock markets and is quite scared of risk.

Adam provides Mr. Kim with his own background in investment management as well as Able Securities and how they have been in business for more than 20 years. He continues to provide Mr. Kim with information about his past clients and the returns he has managed to secure for him using derivatives in their portfolios.

Prior to ending the meeting, Adam advises Mr. Kim that he will accepting him as a discretionary client and will be managing his funds accordingly. He then provides Mr. Kim with the firms trust account bank details and requests that the Mr. Kim deposit the funds immediately. Once received he will start managing her funds in the same way he has for his previous clients.

- 8.1 Discuss in DETAIL why Adam Levine is in breach of his obligations to the client, taking into account his mandate, FICA, POPI and Investment requirements. (20 marks)
- 8.2 As per the Exchange Rules, an authorised user that manages investments in derivatives instruments must meet certain requirements. Discuss in DETAIL what these requirements are. (10 marks)

Question 9**(8 marks)**

Using the figures for ABG, NED and SBK above in Question 8, calculate:

9.1 The price weighted index for these three shares calculated and explained? (3,5 marks)

9.2 The Value weighted index and the weighting of each of these shares calculated and explained? (4,5 marks)

Question 10**(4,5 marks)**

Name and explain in brief, three benefits for investing in listed as opposed to unlisted company's?

Question 11**(9,5 marks)**

You are approached by Mr. Doubt, a non-discretionary client who would like to hedge his existing portfolio, currently value of R12 million and consists of 10 different equity securities. The respective value weightings of these equities in this portfolio range from 3% to 17%. He has been approached by a friend to consider the following alternatives, but would like your opinion on the suitability or not of each of these hedging alternatives. You must advise whether any of these alternatives are feasible or not for the client, explaining in each case the risks inherent in each alternative:

11.1 A fellow wealthy investor from his golf club has offered to buy an american call option from your client that will cover the entire portfolio and will have a term of 2 years. He will pay your client a once-off premium of R500 000. (3 marks)

11.2 Your client has been offered a double in bespoke cash settled forward agreements by an investment bank. Each forward contract will be structured to match 10% of the clients portfolio. The forwards will expire in exactly 700 days from trade date and their respective strike prices are:

- The banks offer on the forwards is at 110% of the portfolio value at time of the forward contracts trade; and
- The banks bid on the forwards is at 90% of the portfolio value at time of the forward contracts trade.

The bank will also sell options on these forward contracts, Puts at R50 000 per forward contract and Calls at R75 000 per forward contract. (6,5 marks)

Section C**[8 Marks]****Question 12****(1 mark)**

The share price of a company has no bearing on which of the following?

- A. The companies market capitalization;
 - B. The number of shares the company has in issue;
 - C. The companies PE ratio;
 - D. The companies DY; or
 - E. Its weighting in the value index.
-

Question 13**(1 mark)**

In addition to the investment objective that sets limits on risk and return, certain other constraints also affect the investment plan. Which of the following are constraints in the investment process?

- i. Liquidity
 - ii. Market manipulation
 - iii. Taxation
 - iv. Legal and regulatory factors
-
- A. i, ii & iv
 - B. i, iii & iv
 - C. ii, iii & iv
 - D. i & iv only
 - E. All of the above
-

Question 14**(1 mark)**

The buyer of an American Put Option _____?

- i. receives the premium;
- ii. has the right to sell the underlying;
- iii. has the right to buy the underlying;
- iv. is the option exercise rights holder;
- v. is the option exercise obligations holder.

- A. i, ii & iv
 - B. ii & iii
 - C. ii & iv
 - D. iii & v
 - E. iv & v
-

Question 15**(1 mark)**

Short sellers of futures on the Als40 attempt to _____?

- i. Catch the start of a bull market;
- ii. Sell high to later buy Low;
- iii. Catch the end of a bull market;
- iv. Buy Low to later Sell High;
- v. Catch the end of a bear market.

- A. i, ii & iii
 - B. i & iv
 - C. ii & iii
 - D. ii, iii & iv
 - E. i, iii & v
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Question 16**(1 mark)**

A buyer of single stock futures attempts to _____?

- i. Catch the start of a bull market in the share
- ii. Sell high to later buy Low
- iii. Catch the end of a bull market in the share
- iv. Buy Low to later Sell High
- v. Catch the end of a bear market in the share

- A. i, ii & iii
 - B. i & iv
 - C. ii & iii
 - D. ii, iii & iv
 - E. i, iv & v
-

Question 17**(1 mark)**

The weighted average cost of capital is the _____?

- A. weighted cost of debt less the weighted cost of equity
 - B. sum of the debt revalued at the highest rate paid
 - C. weighted rate that a company is expected to pay all its capital suppliers
 - D. weighted cost of the company's net debt
 - E. None of the above
-

Question 18**(1 mark)**

An under-priced security provides an expected return which is _____ the required return based on the capital asset pricing model (CAPM).

- A. Less than
- B. Equal to
- C. Less than or equal to
- D. Greater than
- E. Great than or equal to

Question 19

(1 mark)

Short sellers of Bonds trading on yield attempt to _____?

- A. Sell high to later Buy Low;
- B. Sell low to later Buy high;
- C. Buy Low to later Sell High; or
- D. Buy high to later Sell low.
- E. None of the above

END OF EXAM

ANNEXURE: Information Sheets

Tax and Exchange Rates	
Dividend withholding tax (DWT)	20%
Securities Transfer Tax (STT)	0.25%
VAT	15%
SARS directive applicable to the Jones' couple:	
Interest earned locally	30%
Interest earned on foreign accounts	10%

Exchange rates (R to Fx)	
To be used for USD (\$)	17,50
To be used for UK Pound (£)	20,70
Interest on short term money accounts	
US Dollar account, earns 1,5% pa	
UK Pound sterling account, earns 1,25% pa	

List of Allowed Securities

Money Market (JSE Trustees) current rates	5.5% p.a.
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Equity	Code	Price (cents)	# Shares	PE	DY	JSE Sector
Anglo American	AGL	57500	1 363 118 080	21,51	1,62%	Metals & Minerals
Aspen Pharmacare	APN	14457	456 451 541	10,93	0%	Pharmaceuticals
ABSA Group	ABG	11651	840 439 292	12,97	4,26%	Banks
Bidcorp	BID	27006	335 404 212	38,91	0,98%	Food Processors
British Am. Tobacco	BTI	57221	2 457 227 697	9,74	6,11%	Tobacco
Discovery	DSY	14053	658 290 736	312.5	0,57%	Life Assurance
Distell Grp Hldgs	DGH	9393	222 622 356	39,84	1,48%	Beverages - Alcohol
Impala Plats	IMP	21175	770 314 222	10,20	1,98%	Platinum

ETF Fund	Sector	Price (cents)	Div. Yield	Market Cap
STX40	Satrix JSE Allshare top 40	5877	0,06%	R9 467 376 311
STX500	Satrix S&P 500 USA Nasdaq	5842	0%	R1 499 878 059

BONDS: Bond price is All-in, includes brokerage and costs

RSA Bond Code	Bond description	Maturity	Coupon	Price
R182	RSA Government Bond	2021/12/31	12,00%	112
R186	RSA Government Bond	2026/12/31	10,50%	108
Cb25	Corporate Bond	2025/12/31	14,50%	105

Assume no accrued interest, all both pay semi-annual coupons on the 1st June and the 1st December respectively.

Formula Sheet

$PV = \sum_n \frac{C_n}{(1+r)^n}$	$NPV = \sum_{t=1}^T \frac{CF_t}{(1+r)^t}$
$IRR: 0 = \sum_{t=1}^T \frac{CF_t}{(1+IRR)^t}$	$E[R] = \sum_{i=1}^N (P_i \times R_i)$
$P_0 = \sum_{t=1}^{\infty} \frac{D_0(1+g)^t}{(1+r)^t}$	$PE = \frac{P}{EPS}$
$P_0 = \frac{D_1}{k-g}$	and $P_1 = P_0(1+g)$
$WC = CA - CL$	$Return\ on\ WC = \frac{Net\ Profit}{WC}$
$CAPM\ ER = r_f + \beta (r_m - r_f) \text{ where risk premium} = (r_m - r_f)$	
$WACC = \left[\left(\frac{E}{V} \right) \times R_e \right] + \left[\left(\left(\frac{D}{V} \right) \times R_d \right) \times (1 - T) \right]$	
$Payback\ period = \left[\begin{array}{l} \text{Last year with} \\ \text{a negative NCF} \end{array} \right] + \left[\begin{array}{l} \text{Absolute value of} \\ \text{NCF in last year with - ve NCF} \\ \text{Total Cash Flow} \\ \text{in the following year} \end{array} \right]$	
$\text{Redeemable Pref Share: } PSR = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \dots + \frac{D_n + RV}{(1+r)^n}$	
$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2}$	$\text{Bond: } P = \sum_{t=1}^T \frac{C}{(1+y)^t} + \frac{F}{(1+r_n)^n}$

Investment Return Spread Sheet

Question _____

Student No. _____

Total Investable Amount for Year _____ for period _____ to _____ = R _____									
Funds available after structure: R _____ Distributions: R _____ Port Mng Fees: R _____									
Asset Class	Security Identity	Allocation %	Value	Return Yield %	Return Value Rands	Tax Rate %	Tax R	After Tax Return	New Invested Value Y/E
Cash	JSE Trustees								
Bonds									
Equities									
FX Bank Ac									
Fund (ETF)									
Total									
					%		%	%	

Investment Return Spread Sheet (Extra Sheet)

Question _____

Student No. _____

Total Investable Amount for Year _____ for period _____ to _____ = R _____									
Funds available after structure: R _____ Distributions: R _____ Port Mng Fees: R _____									
Asset Class	Security Identity	Allocation %	Value	Return Yield %	Return Value Rands	Tax Rate %	Tax R	After Tax Return	New Invested Value Y/E
Cash	JSE Trustees								
Bonds									
Equities									
FX Bank Ac									
Fund (ETF)									
Total									
					%		%	%	