



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

**EXEMPLAR PAPER 1**

**MCQ Questions and Answers**

**Note:** This exam is orientated towards learners operating within the licensed stock exchange and associated fields.

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
MODERATOR	William Bowler/ Erica Bruce
WRITING TIME	3 Hours
READING TIME	15 Minutes
TOTAL EXAM TIME	<b>3 Hours 15 Minutes</b>

1. This is a closed book examination.
2. Please check that **ALL** the required questions have been answered.
3. Please **DO NOT** write your name and surname on the completed answer books.
4. Questions must be answered in the **Answer Boos 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 217. A pass mark for Paper 1 is **50% (i.e. 108.5/217)**.

7. There are three (3) sections to the examination Paper 1:

<b>SECTIONS</b>	<b>MARK ALLOCATION</b>
SECTION A <i>Answer all questions from this section</i>	134
SECTION B <i>Answer all questions from this section</i>	75
SECTION C <i>Answer all questions from this section</i>	8
<b>TOTAL (PAPER 1)</b>	<b>217</b>

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 Select the options that are the best explanation of the following questions related to market concepts or terms:

1.1.1 What does Market Liquidity mean?

(1,5 marks)

**Market Liquidity means:**

- I. The relevant security price is increasing causing an inflow of buyers
- II. The relevant security price is decreasing causing an inflow of sellers
- III. There are sufficient buyers at the market price for the relevant security to ensure investors can quickly sell the security without causing a material change in the security's price.
- IV. There are sufficient sellers at the market price for a security to ensure investors can quickly purchase the security without causing a material change in the security's price.

Choose the correct answers:

- A. I only;
- B. I and II only;
- C. III only;
- D. III and IV only; or
- E. None of the above.

1.1.2 What does Discretionary Client mean? (1,5 marks)

**Discretionary Client means:**

- I. Where the broker or asset manager can manage a client's portfolio by either buying or selling securities, but only after referring to the client
- II. Where the broker or asset manager can manage a client's portfolio by either buying or selling securities without referring to the client;
- III. Where the broker or asset manager can only buy but not sell securities without referring to the client;
- IV. Where the broker or asset manager can only sell but not buy securities without referring to the client;

Choose the correct answers:

- A. I only;
- B. II only;
- C. III only;
- D. IV only; and
- E. None of the above.

1.1.3 What does Behavioural Economics mean? (2 marks)

**Behavioural Economics means:**

- I. The effects of psychological, cognitive, but not emotional, cultural and social factors on the decisions of individuals and institutions and how those decisions vary from those implied by classical economic theory;
- II. The effects of psychological, cognitive, emotional, cultural and social factors on the decisions of individuals and institutions and how those decisions vary from those implied by classical economic theory;
- III. Is primarily concerned with the bounds of rationality of economic agents;
- IV. Is not concerned with the bounds of rationality of economic agents;
- V. How the decisions of individuals and institutions mirror classical economic theory;

Choose the correct answers:

- A. I only;
- B. II and V only;
- C. I and III only;
- D. I, III and IV only; and
- E. I, III and V only.

- 1.2 Specify the important elements relevant to your Pension Fund (PF) clients? (2 marks)
- I. They are always discretionary clients;
  - II. They are always non-discretionary clients;
  - III. The Mandate must be approved by PF trustees;
  - IV. They are subject to prudential investment guidelines; and
  - V. They are not subject to prudential investment guidelines.

Choose the correct answers:

- A. I and III only;
- B. II and III only;
- C. I, III and IV only;
- D. II, III and V only; and
- E. I, III and V only.

- 1.3 Specify the important elements relevant to your corporate asset management clients? (2 marks)

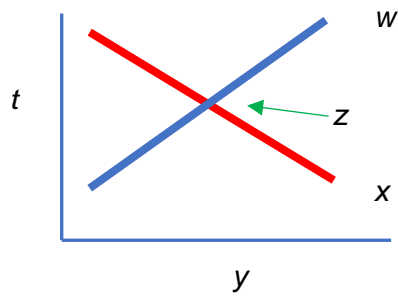
- I. They are always discretionary clients;
- II. They are always non-discretionary clients;
- III. The Mandate must be approved by the board of directors of the asset management client;
- IV. These clients are not acknowledged investment experts; and
- V. These clients are acknowledged investment experts.

Choose the correct answers:

- A. I and III only;
- B. II and III only;
- C. I, III and IV only;
- D. II, III and IV only; and
- E. II, III and V only.

1.4 Select the correct labels for a supply and demand curve

(5 marks)



- A.  $t$ = Price,  $w$ = Demand,  $x$ = Supply,  $y$ = Equilibrium, and  $z$ = Quantity
- B.  $t$ = Price,  $w$ = Supply,  $x$ = Demand,  $y$ = Quantity, and  $z$ = Equilibrium
- C.  $t$ = Price,  $w$ = Demand,  $x$ = Supply,  $y$ = Quantity, and  $z$ = Equilibrium
- D.  $t$ = Quantity,  $w$ = Price,  $x$ = Demand,  $y$ = Equilibrium, and  $z$ = Supply
- E.  $t$ = Supply,  $w$ = Demand,  $x$ = Equilibrium,  $y$ = Price, and  $z$ = Quantity

Question 1 Solutions		
1.1.1	D	
1.1.2	B	
1.1.3	C	
1.2	C	
1.3	D	
1.4	C	

**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, which in this case is the JSE Trustees money market account. This minimum does not cover any restructuring fees, so the R150 000 is 60% of the amount to be deposited in the JSE trust account pre the restructuring fee deduction to come from the JSET 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)

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. Answer the following:*

2.1 The needs analysis and KYC requirements and findings for the Jones' would include the following, for which an explanation is sought from the alternatives provided:

2.1.1 FICA relates to:

(2 marks)

- A. The name of the clients' previous advisor;
- B. Consideration of the clients' age;
- C. The clients' detail and source of their funds;
- D. The financial requirements of the clients; or
- E. The clients risk profile.

- 2.1.2 PEP in this case applies to: (2 marks)
- A. David Jones;
  - B. Stella Jones;
  - C. David and Stella Jones; or
  - D. Neither David nor Stella Jones.
- 2.1.3. The risk profile of the Jones' would suggest what type of main approach: (2 marks)
- A. Capital accumulation with high risk;
  - B. Capital preservation with moderate risk
  - C. Capital preservation with no risk;
  - D. Earnings generation with high risk; or
  - E. Earnings generation with moderate risk.
- 2.2 What is the additional cash requirement of the Jones' for year 2 to cover their monthly living expense shortfall: (3 marks)
- A. R12 000
  - B. R144 000
  - C. R154 800
  - D. R166 410
  - E. R178 891
- 2.3 What is the monthly and annual draw-down requirement from the portfolio of the Jones' with the relevant escalation in year 4: (3 marks)
- A. R12 000 / R144 000
  - B. R12 900 / R154 800
  - C. R13 867.50 / R166 410
  - D. R14 907.56 / R178 891
  - E. R16 025,63 / R192 307,56

Question 2 Solutions		
2.1.1	C	
2.1.2	B	
2.1.3	E	
2.2	C	$(12k \times 12) \times 1.075 = R144\ 000 \times 1.075 = 7.5\%$ given increase per annum
2.3	D	R12k per month $R12k \times 1.075 = 12\ 900$ $12,9 \times 1.075 = 13\ 867,50$

		$=14\,907,5625 \times 12$ $= R178\,890,75$
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**Question 3**

**(5 marks)**

3.1 The following are elements of what type of investment strategy: First look at the relevant macroeconomic trends, then select the top performing sectors and out of that we select out securities: (1,5 marks)

- A. Macro Economic investment strategy
- B. Bottom up investment strategy;
- C. Top down investment strategy;
- D. Revenue bias investment strategy; or
- E. Capital bias investment strategy.

3.2 The Portfolio Manager aims to outperform their peers, specifically benchmark indices. This portfolio manager is chosen due to their experience and skill in selecting securities that provide above standard results and likely trade often. The following elements are elements of what type of investment strategy: (1,5 marks)

- A. Bottom up investment strategy;
- B. Top down investment strategy;
- C. Revenue bias investment strategy;
- D. Active investment strategy; or
- E. Passive investment strategy.

3.3 The Portfolio Manager applies the efficient market hypothesis and aims to reduce costs applying a buy-and-hold approach. Involving low turnover. This investment manager may well include index tracking securities. The following elements are elements of what type of investment strategy: (2 marks)

- A. Bottom up investment strategy;
- B. Top down investment strategy;
- C. Revenue bias investment strategy;
- D. Active investment strategy; or
- E. Passive investment strategy.

Question 3 Solutions		
3.1	C	
3.2	D	
3.3	E	

**Question 4**

**(6 marks)**

4.1 Explain your investment process for the Jones' by putting the following steps in their chronological order? (4 marks)

- I. Asset allocation decision;
- II. Know or understand your client;
- III. Evaluate Portfolio performance;
- IV. Asset selection; and
- V. Portfolio strategy selection application.

The order of their investment process is as follows:

- A. II, I, V, IV, and III;
- B. II, III, I, IV, and V;
- C. V, II, I, IV and III;
- D. III, II, I, IV and V; or
- E. V, II, IV, I and III.

4.2 After which stage of the investment process would you re-balance the portfolio? (2 marks)

- A. Asset allocation decision;
- B. Know or understand your client;
- C. Evaluate Portfolio performance;
- D. Asset selection; and
- E. Portfolio strategy selection application.

Question 4 Solutions		
4.1	A	
4.2	C	

**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**

**(67 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. Select closest answer below. (8 marks)
- A. R8 506 523
  - B. R8 875 646
  - C. R9 287 427
  - D. R9 601 646
  - E. R9 987 238
- 5.2 Calculate the structuring fee on the portfolio provided by the Jones' to structure your proposed portfolio. (2 marks)
- A. R85 065
  - B. R88 756
  - C. R92 874
  - D. R96 016
  - E. R99 872
- 5.3 How much is minimum to be invested in JSET given expected deductions for restructuring fee? (3 marks)
- A. R150 000
  - B. R175 000
  - C. R200 000
  - D. R225 000
  - E. R250 000
- 5.4 What are clients' instructions in terms of BTI? (1 mark)
- A. Sell 75% of BTI;
  - B. Buy additional BTI;
  - C. Sell 100% of BTI;
  - D. Hold all the BTI; or
  - E. None of the above.

5.5 What are clients' instructions in terms of DGH? (1 mark)

- A. Sell 75% of DGH;
- B. Buy additional DGH;
- C. Sell 100% of DGH;
- D. Hold all the DGH; or
- E. None of the above.

5.6 What are clients' instructions in terms of AGL? (2 marks)

- A. Sell 75% of AGL;
- B. Buy additional AGL;
- C. Sell 100% of AGL;
- D. Hold all the AGL; or
- E. Sell 50% of their AGL.

5.7 In terms of ETF's: (2 marks)

- I. Sell STX500;
- II. Hold STX500;
- III. Sell STX40
- IV. Buy STX500;
- V. Buy STX40.

Choose the correct answer/s above:

- A. I only.
- B. II only.
- C. II and III only.
- D. III and IV only.
- E. II and V only.

- 5.8 What does the client require in terms of investing in bonds? (3 marks)
- A. Calculate Bond investment required. Buy R182, as shorter duration and interest rate decline is expected. The coupon after tax must equal at least year 4's escalated extra living expense requirement.
  - B. Calculate Bond investment required. Buy Cb25, as longer duration and interest rate decline is expected and it pays the highest coupon rate. The coupon after tax must equal at least year 4's escalated extra living expense requirement.
  - C. Calculate Bond investment required. Buy R186, as longer duration and interest rate decline is expected. The coupon after tax must equal at least year 4's escalated extra living expense requirement.
  - D. Calculate Bond investment required. Buy R182, as shorter duration and interest rate decline is expected. The coupon after tax must equal at least year 2's escalated extra living expense requirement.
  - E. Calculate Bond investment required. Buy R186, as shorter duration and interest rate decline is expected. The coupon after tax must equal at least year 4's escalated extra living expense requirement.
- 5.9 What is the process after the determination of the Bond asset class investment? (2 marks)
- A. After bond allocation, take extra cash + value of sold equities (taking off brokerage and VAT on shares sold) and add back value of equities you are keeping. This gross amount gets allocated 50% to equities, 50% to buying STX40
  - B. Before bond allocation, take extra cash + value of sold equities (taking off brokerage and VAT on shares sold) and add back value of equities you are keeping. This gross amount gets allocated 50% to buying additional equities, 50% to buying STX40
  - C. After bond allocation, take remaining cash and add back value of equities you are keeping. This gross amount gets allocated 50% to buying additional equities, 50% to selling STX40
- 5.10 Calculate the brokerage, VAT and STT rate applicable for BUY transactions: (3 marks)
- A. 0,4%
  - B. 0,46%
  - C. 0,56%
  - D. 0,65%
  - E. 0,71%



5.11 Calculate the brokerage, VAT and STT rate applicable for SELL transactions: (3 marks)

- A. 0,4%
- B. 0,46%
- C. 0,56%
- D. 0,65%
- E. 0,71%

5.12 What is the net revenue generated by the sale of shares in terms of the clients' requirements? (4 marks)

- A. R3 955 930
- B. R4 933 133
- C. R5 187 923
- D. R5 349 223
- E. R5 936 122

5.13 Calculate what amount of money the client has after carrying out their instructions, answer in terms of the 2 questions below

5.13.1 How much money is available to invest in the Money Market, Bonds, Equities and Satrix STX40 asset classes? (4 marks)

- A. R4 955 611
- B. R5 003 611
- C. R5 287 611
- D. R5 449 611
- E. R5 693 611

5.13.2 How much is left to invest in Bonds, Equities and Satrix STX40? (3 marks)

- A. R4 755 611
- B. R4 893 611
- C. R4 997 611
- D. R5 037 611
- E. R5 536 611

- 5.14 How much "Face Value" of bonds is required to provide the guaranteed coupon specified by the client? (Round this amount up to the nearest R100 000)? (6 marks)
- A. R1 703 723
  - B. R1 800 000
  - C. R2 433 890
  - D. R2 500 000
  - E. None of the above
- 5.15 Given the rounded Face value determined in Q5,13 above, calculate the Rand spend on bonds? (6 marks)
- A. R1 944 000
  - B. R2 016 000
  - C. R2 700 000
  - D. R2 800 000
  - E. None of the above
- 5.16 Given the spend on Bonds determined above, how much money is available to spend on Equities? (6 marks)
- A. R1 944 000
  - B. R2 016 000
  - C. R2 700 000
  - D. R2 800 000
  - E. None of the above
- 5.17 Assuming you choose ABSA and Discovery as the 2 equities, and you allocate 50% of the equity investment funds available to each, answer the following:
- 5.17.1. Based on how much money is allocated to ABSA, calculate how many shares are to be bought after trading costs (brokerage, VAT and STT)? Select closest rounded answer: (4 marks)
- A. 4 938 ABSA shares
  - B. 4 958 058 ABSA shares
  - C. 4 975 ABSA shares
  - D. 4 980 ABSA shares
  - E. None of the above

5.17.2. Based on how much money is allocated to Discovery, calculate how many shares are bought after trading costs (brokerage, VAT and STT)? Select closest rounded answer.

(4 marks)

- A. 4 050 Discovery shares
- B. 4 073 Discovery shares
- C. 4 115 Discovery shares
- D. 4 129 Discovery shares
- E. None of the above

5.17.3. How much money is allocated to STX40, and how many ETFs are bought after trading costs (brokerage, VAT and STT)?

(3 marks)

- A. 19 651 STX40 units
- B. 19 701 STX40 units
- C. 19 747 STX40 units
- D. 19 847 STX40 units
- E. None of the above

Question 5 Solutions			
5.1	D	Calculate the value of the portfolio provided by the Jones' before any actions you propose are taken? ..... 6 marks.	
<b>Portfolio and Value provided by Jones'</b>			
		<b>Security</b>	<b>No</b>
		<b>Unit Price (Rand)</b>	<b>Value</b>
		Cash	R435 000,00
		<b>Shares</b>	R7 906 495,00
		Anglos	8 000 R575,00 R4 600 000,00
		Aspen	4 500 R144,57 R650 565,00
		BATs	3 000 R572,21 R1 716 630,00
		Distell	10 000 R93,93 R939 300,00
		<b>ETF's</b>	
		STX500	11 000 R58,42 R642 620,00
		<b>Foreign bank accounts</b>	<b>FX amt</b> <b>R rate</b>
		USD	17 586 R17,50 R307 755,00
		BP	14 965 R20,70 R309 775,50
		<b>Therefore portfolio provided =</b>	<b>R9 601 645,50</b>
		<b>Structuring Charge</b>	<b>1% -R96 016,46</b>
5.2	D	<b>Structuring Charge</b>	<b>1% -R96 016,46</b>
5.3	E	Safety margin = R150k	R150 000
		Safety margin is 60% bof allocation to JSET	
		<b>Full JSET allocation therefore</b>	<b>R250 000</b>
5.4	C		

5.5	C																													
5.6	E																													
5.7	E																													
5.8	C	Calculate Bond required (buy R186, as it is a longer duration bond and we are told client expects interest rates to decline – do not want bond that matures too early, before 4 years). Clients wants guaranteed coupon after tax equalling at least 4 year escalated extra living requirement.																												
5.9	A																													
5.10	E	<table border="1"> <tr> <td><b>Buy transactions.</b></td> <td><b>Brk</b></td> <td><b>VAT</b></td> <td><b>STT</b></td> </tr> <tr> <td></td> <td>0,40%</td> <td>0,06%</td> <td>0,25%</td> </tr> <tr> <td></td> <td><b>0,71%</b></td> <td></td> <td></td> </tr> </table>	<b>Buy transactions.</b>	<b>Brk</b>	<b>VAT</b>	<b>STT</b>		0,40%	0,06%	0,25%		<b>0,71%</b>																		
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5.11	B	<table border="1"> <tr> <td><b>Sell transactions.</b></td> <td><b>Brk</b></td> <td><b>VAT</b></td> <td><b>STT</b></td> </tr> <tr> <td></td> <td>0,40%</td> <td>0,06%</td> <td>0,00%</td> </tr> <tr> <td></td> <td><b>0,46%</b></td> <td></td> <td></td> </tr> </table> <p>STT only on buyer</p>	<b>Sell transactions.</b>	<b>Brk</b>	<b>VAT</b>	<b>STT</b>		0,40%	0,06%	0,00%		<b>0,46%</b>																		
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5.14	D	<p>The client expects interest rates to decline and wants guaranteed coupon income for 4 years. As per Q2.2. above, minimum coupon in 4 years' time must be after tax on interest = R178 891 per annum.</p> <p>Bond choice = R186, as it extends beyond 4 years and coupon fixed for period. Therefore, can guarantee coupon.</p> <table border="1"> <tr> <td colspan="4"><b>Bond purchase</b></td> </tr> <tr> <td colspan="4"><b>R186</b></td> </tr> <tr> <td><b>Face</b></td> <td><b>Coupon R186 = 10,5%</b></td> <td><b>Tax on domestic interest (30%)</b></td> <td><b>After tax coupon</b></td> </tr> <tr> <td>R1 000 000,00</td> <td>R105 000,00</td> <td>R31 500,00</td> <td>R73 500,00</td> </tr> <tr> <td colspan="4">Need minimum of after tax coupon income of R178 891</td> </tr> <tr> <td colspan="4">Therefore R178891 / R73500 = 2,43389 thus round up and buy 2,5 x R1m</td> </tr> <tr> <td><b>R2 500 000,00</b></td> <td><b>R262 500,00</b></td> <td><b>R78 750,00</b></td> <td><b>R183 750,00</b></td> </tr> </table> <p>Cost/Price = R2,5m x 1.08</p>	<b>Bond purchase</b>				<b>R186</b>				<b>Face</b>	<b>Coupon R186 = 10,5%</b>	<b>Tax on domestic interest (30%)</b>	<b>After tax coupon</b>	R1 000 000,00	R105 000,00	R31 500,00	R73 500,00	Need minimum of after tax coupon income of R178 891				Therefore R178891 / R73500 = 2,43389 thus round up and buy 2,5 x R1m				<b>R2 500 000,00</b>	<b>R262 500,00</b>	<b>R78 750,00</b>	<b>R183 750,00</b>
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		R2 500 000,00	R262 500,00	R78 750,00	R183 750,00
		Cost = 108			
		R2 700 000			
		Note: Told bond price is All In, includes brokerage and costs.			
		Spend	R2 700 000		
		Face Value	R2 500 000		
		Therefore buy R2,5m face value of R186, given price 108 means spend R2,7m			
		Coupon of 10,5% paid on face = R262 500 pa – tax (30%) of R78 750 pa gives an annual net of tax coupon of R183 750 pa.			
5.16	D				
5.17.1	D	Funds available to buy shares (See Q5.16.)		R1 168 805,36	
		50% on ABSA =		R584 402,68	
		No shares given price R116,51 and trading costs on buy of 0,71% (Q 5.10.)			
		= R584 402,68 / (R116,51 x 1,0071) =		4980,54	
		Cannot by part share so make number:		4 980	
5.17.2	D	Funds available to buy shares (See Q5.16.)		R1 168 805,36	
		50% on Discovery =		R584 402,68	
		No shares given price R58,77 and trading costs on buy of 0,71% (Q 5.10.)			
		= R584 402,68 / (R58,77 x 1,0071) =		9873,79	
		Cannot by part share so make number:		9 873	
5.17.3	C	Funds available to buy shares (See Q5.16.)		R1 168 805,36	
		100% on STX40 =		R1 168 805,36	
		No STX40's given price each of R58,77 and trading costs on buy of 0,71% (Q 5.10.)			
		= R1 168 805,36 / (R58,77 x 1,0071) =		19747,58	
		Cannot by part share so make number:		19 747	

**Question 6****(30 marks)**

Answer the following, in terms of the new proposed portfolio in Year 1. Using the *Investment Return Spreadsheet* provided to assist in your calculations, answer the following:

6.1 The JSET value after deducting the management fee for Year 1? (2 marks)

- A. R135 017.72
- B. R145 017.72
- C. R155 017.72
- D. R165 017.72
- E. R185 017.72

6.2 The Equity class value:

6.2.1 The value of equities retained from portfolio provided by client for restructuring? (2 marks)

- A. R2 350 565
- B. R2 650 565
- C. R2 950 565
- D. R3 250 565
- E. R3 550 565

6.2.2 Value of added shares (ABSA and Discovery) to be bought for the restructured/new portfolio? (2 marks)

- A. R1 108 707.49
- B. R1 138 707.49
- C. R1 168 707.49
- D. R1 188 707.49
- E. R1 198 707.49

6.2.3 Value of Equity Asset class as a percentage of the restructured/new portfolio? (2 marks)

- A. 34%
- B. 38%
- C. 44%
- D. 48%
- E. 50%

- 6.2.4 Bond investment as a percentage of the restructured/new portfolio? (2 marks)
- A. 24%
  - B. 29%
  - C. 34%
  - D. 39%
  - E. 44%
- 6.2.5 STX40 investment as a percentage of the restructured/new portfolio? (2 marks)
- A. 8%
  - B. 10%
  - C. 12%
  - D. 14%
  - E. 16%
- 6.2.6 STX500 investment as a percentage of the restructured/new portfolio? (2 marks)
- A. 4%
  - B. 5%
  - C. 6%
  - D. 7%
  - E. 8%
- 6.2.7 The USD value in Rand of the USD (\$) in the restructured/new portfolio? (2 marks)
- A. R297 755
  - B. R300 755
  - C. R307 755
  - D. R314 030
  - E. R364 030

6.2.8 The value in Rand of the GBP (£) in the restructured/new portfolio? (2 marks)

- A. R261 887
- B. R300 755
- C. R300 775
- D. R309 775
- E. R319 775

6.2.9 Foreign bank accounts as a percentage of the restructured/new portfolio? (2 marks)

- A. 3%
- B. 4%
- C. 5%
- D. 6%
- E. 7%

6.2.10 Using your Investment Return Spreadsheet, what is the value of the Returns on the restructured/new portfolio? (2 marks)

- A. R302 799.50
- B. R345 699.53
- C. R366 699,53
- D. R386 699.53
- E. R389 799.50

6.2.11 Using your Investment Return Spreadsheet, what is the value of the Tax amount due on the returns on the restructured/new portfolio? (2 marks)

- A. R85 464
- B. R95 464
- C. R98 464
- D. R101 464
- E. R103 464



6.2.12 Using your Investment Return Spreadsheet, what is the value of the net return after tax and pay-out of the Jones' budget shortfall amount that will be added to the portfolio at the start of Year 2? (2 marks)

- A. R89 747
- B. R91 747
- C. R94 747
- D. R97 747
- E. R100 747

6.2.13 Using your Investment Return Spreadsheet, what is the value of the portfolio at the start of Year 2? (2 marks)

- A. R9 400 893
- B. R9 500 993
- C. R9 568 893
- D. R9 653 482
- E. R9 748 946

6.2.14 Using your Investment Return Spreadsheet, what is the value of the after-tax return as a % of the portfolio at the start of Year 1? (2 marks)

- A. 1,66%
  - B. 2,66%
  - C. 3,66%
  - D. 4,66%
  - E. 5,66%
-

**Question 6 Solutions**

6.1

C

Restructured Portfolio Year 1					
Asset Class	Equity/Security	Amount	After Mgt Fee	Class %	Sec % of Class
Cash	JSE MM See 5.4.2.	R250 000,00	R155 017,72	2%	
Equity		R4 119 272,49	R4 119 272,49	44%	
	4 000 Anglos	R2 300 000,00			55,84%
	4500 Aspen	R650 565,00			15,79%
	4980 ABSA	R584 339,36			14,19%
	4129 Discovery	R584 368,13			14,19%
Bonds		R2 700 000,00	R2 700 000,00	29%	100,00%
STX40		R1 168 805,37	R1 168 805,37	12%	
STX500		R642 620,00	R642 620,00	7%	
USD		R307 755,00	R307 755,00	3%	
UK Pound		R309 775,50	R309 775,50	3%	
		<b>R9 498 228,36</b>	<b>R9 403 246,08</b>	<b>100%</b>	
Portfolio Mgt Fee (AUM)		R94 982,28			
<b>Net opening portfolio</b>		<b>R9 403 246,08</b>	<b>R0,00</b>		

See pg 19, the R94 982.28 mgt fee taken off the R250k in JSET leaves R155 017,72 = 2% of portfolio

6.2.1

to

6.2.10

Investment Return Spreadsheet for Portfolio handed to you by the Jones' couple for restructuring									
Total Invested Amount at start of period after structure		9 403 246,08							
Asset Class	Security Identity	Allocation	Value incl broke	Return / Yield	Return Value	Tax Rate pa	Tax amount	After Tax Return	New Invested Value
Cash JSE Trustees		1,65%	155 017,72	5,50%	8 525,97	30,00%	2 557,79	5 968,18	155 017,72
Bonds	R186	28,71%	2 700 000,00	10,50%	262 500,00	30,00%	78 750,00	183 750,00	2 700 000,00
Equities	ABSA	43,81%	584 339,36	4,26%	24 892,86	20,00%	4 978,57	19 914,29	584 339,36
	Anglos		2 300 000,00	1,62%	37 260,00	20,00%	7 452,00	29 808,00	2 300 000,00
	Discovery		584 368,13	0,57%	3 330,90	20,00%	666,18	2 664,72	584 368,13
	Aspen		650 565,00	0,00%	0,00	20,00%	0,00	0,00	650 565,00
FX Accounts	USD = \$	7%	307 755,00	1,50%	4 616,33	10,00%	461,63	4 154,69	307 755,00
	UK = £		309 775,50	1,25%	3 872,19	10,00%	387,22	3 484,97	309 775,50
Satrx ETF 1	STX40	19,26%	1 168 805,37	0,06%	701,28	30,00%	210,38	490,90	1 168 805,37
	STX500		642 620,00	0,00%	0,00	30,00%	0,00	0,00	740 367,23
<b>Total</b>		<b>100,00%</b>	<b>R9 403 246,08</b>		<b>345 699,53</b>		<b>95 463,78</b>	<b>250 235,75</b>	<b>9 500 993,31</b>
					3,68%		1,02%	2,66%	

6.2.1

C

6.2.2

C

6.2.3

C

6.2.4

B

6.2.5

C

6.2.6

D

6.2.7

C

6.2.8

D

6.2.9

D

6.2.10

B

6.2.11	to	<b>Calculation of STX500 new invested value:</b>	
6.2.13		After tax returns	250 235,75
		less capitalised Int on FX Accs	-8 488,52
		less Payout of shortfall (See 2.2.)	-144000
			<b>97 747,23</b>
6.2.11	B		
6.2.12	D		
6.2.13	B		
6.2.14	B		

## Question 7

(6 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 firm's economist in terms of the business cycle outlook and the sector analyst in terms of the likely share price move, given the economist's 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%	.18 x .5% 0.0009
Contraction Phase becoming a full-blown recession	.22	Fall by 14% i.e. -14%	-0,0308
Business cycle entering a recovery phase	.45	Increase by 10%	0.045
Business cycle entering a prosperity phase	?	Increase by 19%	0.0285
			<b>0.0436</b>

7.1 What is the probability of the business cycle entering a prosperity phase? (2 marks)

- A. 15%
- B. 18%
- C. 22%
- D. 45%
- E. None of the above

7.2 What is the expected price move of Eco Ltd given the information above? (4 marks)

- A. 0,09%
- B. 2,85%
- C. 3,08%
- D. 4,36%
- E. 4,5%

Question 7 Solutions		
7.1	A	= 0.15 = 15%
7.2	D	.0436 x 100/1 = 4.36%

### Question 8

(14 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:

8.1 Calculate the market capitalisation of ABSA. Choose from the rounded answers below.

(2 marks)

- A. R63 826 million
- B. R101 476 million
- C. R209 815 million
- D. R210 815 million
- E. None of the above

8.2 Calculate the market capitalisation of Nedcor. Choose from the rounded answers below.

(2 marks)

- A. R63 826 million
- B. R101 476 million
- C. R209 815 million
- D. R210 815 million
- E. None of the above

8.3 Calculate the market capitalisation of Standard. Choose from the rounded answers below.

(2 marks)

- A. R63 826 million
- B. R101 476 million
- C. R209 815 million
- D. R210 815 million

E. None of the above

8.4 Rank the three banking companies based on their value from biggest to smallest. (2 marks)

- A. Nedcor, ABSA, Standard
- B. ABSA, Nedcor, Standard
- C. Standard, Nedcor, ABSA
- D. ABSA, Standard, Nedcor
- E. Standard, ABSA, Nedcor

8.5 Which of the 3 companies has the highest PE? (1 mark)

- A. Nedcor
- B. ABSA
- C. Standard
- D. Cannot determine
- E. Are all equal

8.6 Calculate the total earnings of the share with the highest PE ratio. (5 marks)

- A. Total earnings = R6 468 943 168
- B. Total earnings = R7 106 883 241
- C. Total earnings = R7 466 943 067
- D. Total earnings = R7 866 944 367
- E. Total earnings = R8 006 933 248

Question 8 Solutions																					
8.1 to 8.3	<b>Market Capitalisation calculation</b>																				
	<table border="1"> <thead> <tr> <th>Share</th> <th>Code</th> <th>Share Price (Rand)</th> <th>No Shares (a)</th> <th>Market Cap (Rands)</th> </tr> </thead> <tbody> <tr> <td>ABSA</td> <td>ABG</td> <td>R119,70</td> <td>847 750 679</td> <td><b>R101 475 756 276</b></td> </tr> <tr> <td>Nedbank</td> <td>NED</td> <td>R127,13</td> <td>502 054 496</td> <td><b>R63 826 188 076</b></td> </tr> <tr> <td>Standard Bank</td> <td>SBK</td> <td>R129,52</td> <td>1 619 941 184</td> <td><b>R209 814 782 152</b></td> </tr> </tbody> </table>	Share	Code	Share Price (Rand)	No Shares (a)	Market Cap (Rands)	ABSA	ABG	R119,70	847 750 679	<b>R101 475 756 276</b>	Nedbank	NED	R127,13	502 054 496	<b>R63 826 188 076</b>	Standard Bank	SBK	R129,52	1 619 941 184	<b>R209 814 782 152</b>
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Standard Bank	SBK	R129,52	1 619 941 184	<b>R209 814 782 152</b>																	
<b>Market Capitalisation = Share price × No. of shares</b>																					
8.1	B																				
8.2	A																				
8.3	C																				
8.4	E																				
8.5	B	Highest price earnings ratio is ABSA with 13,59.																			
8.6	C	Total Earnings of ABSA																			

	<p>PE ratio = 13,59</p> <p>Therefore: earnings per share = (share price)/13,59</p> <p>EPS = 119,70/13,59</p> <p>EPS = 8,807947</p> <p>Total earnings = EPS × No of shares</p> <p>Total earnings = 8,807947 × 847 750 679</p> <p>Total earnings = R7 466 943 067</p>
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**Question 9**

**(10 marks)**

Adam Levine is a newly appointed portfolio manager at Able Securities (Pty Ltd). He is very keen signed up new clients so as 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. Mr. Kim informs Adam that has R6 000 000 to invest, he further advised that the funds are his life savings and he has no real experience in investing in stock markets. He is quite scared of risk.

Adam provides Mr. Kim with his own background in investment management as well as that of 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 them, using derivatives in their portfolios.

Prior to ending the meeting, Adam advises Mr. Kim that he will accept 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 his funds in the same way he has for his previous clients.

As per the Exchange Rules, an authorised user that manages investments in derivatives instruments must meet certain requirements. Why is Adam Levine in breach of his obligations to the client, taking into account his mandate, FICA, POPI and Investment requirements?

Answer the following questions:

9.1 In terms of the case study and required market practice, which of the following is true?

(2,5 marks)

- I. Adam Levine does not need a Mandate as the deposit is into the firms' trust account.
- II. Adam has not entered into a mandate with the client but is obliged to.
- III. Adam has entered into a mandate with the client
- IV. Mandates contain the arrangements of the relationship and investment and trading obligations of the client and investment manager.

Which are true?

- A. I and II
- B. II and IV
- C. III and IV
- D. II and III
- E. None of the above

9.2 In terms of the case study and required market practice, which of the following is true:

(2,5 marks)

- I. Adam has performed FICA as required by the FIC Act.
- II. Adam has not performed FICA as required by the FIC Act.
- III. Adam has received the required identification information from the client.
- IV. Adam has verified the information received from the client.
- V. Adam has not conducted Due Diligence on the client.

Which are true?

- A. I and II
- B. II and IV
- C. III and IV
- D. II and V
- E. III and V



9.3 In terms of the case study and required market practice, which of the following is true?

(2,5 marks)

- I. Adam should verify the required identification information of the client.
- II. Adam does not need to perform a Due Diligence on the client.
- III. Adam does not need to perform a Risk Assessment and Risk Rating based on the client.
- IV. Adam should verify the source of income or source of funds of the client.
- V. Adam does not need to carry out ongoing due diligence if the client has a “high” risk rating.

Which are true?

- A. I and II
- B. I and III
- C. II and III
- D. III and V
- E. I and IV

9.4 In terms of the case study and required market practice, which of the following is false?

(2,5 marks)

- I. POPI disclaimers have to be signed by the client in relation to the use and retention of their personal information.
- II. Adam should have obtained information regarding the client’s financial situation, investment experience, particular needs and objectives in connection with the services required, to enable him to make an appropriate investment decision..
- III. Adam should have obtained information regarding the client’s state of health and any medications they are on.
- IV. Adam has conducted an adequate needs analysis, based on the information he obtained from the client.
- V. Adam has not ensured that the client is aware that there is a risk of losing more than the initial amount invested.

Which are false?

- A. I and II
- B. I and III
- C. II and III
- D. III and IV

E. I and V

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Question 9 Solutions		
9.1	B	
9.2	D	
9.3	E	
9.4	D	

**Question 10****(14 marks)**

Using the figures for ABG, NED and SBK above in Question 8, answer the following questions:

10.1. Select from the comments below, which are false in terms of the price weighted index.

(2 marks)

- I. This index is a stock market Index in which company's shares are weighted according to their price.
- II. This index is mostly influenced by shares which have the higher price.
- III. Lower priced shares have the higher weighting in this index.
- IV. The number of shares in issue affects this index.
- V. Lower priced shares have a lower weighting to higher priced shares in this index

Which are false?

- A. I and II
- B. II and III
- C. III and IV
- D. IV and V
- E. None of the above

10.2. Calculate the price weighted index for these 3 shares.

(5 marks)

- A. R119,70
- B. R125,45
- C. R376,35
- D. R125 038 908 835
- E. R375 116 726 504

10.3. Select from the comments below, which are false in terms of the value weighted index.

(2 marks)

- I. This index is a stock market Index in which company's shares are weighted according to the number of shares in issue.
- II. This index is influenced by the market capitalisation of companies.
- III. The sum of the market cap of the three shares are divided by 3 (i.e. the number of companies) to get this index.
- IV. The number of shares in issue multiplied by the share price affects this index.
- V. Lower market capitalisation companies have a lower weighting in this index

Which are false?

- A. I and II
- B. I and III
- C. II and III
- D. II and IV
- E. I and V

10.4. Calculate the weighting of ABSA in this index.

(5 marks)

- A. 15%
- B. 17%
- C. 27%
- D. 33%
- E. None of the above

---

Question 10 Solutions		
10.1	C	
10.2	B	
10.3	B	
10.4	C	

**Question 11****(2 marks)**

11.1. Identify the option below which includes only benefits of investing in listed as opposed to unlisted companies. (2 marks)

- A. Liquidity, Price Discovery, Guaranteed Prices, Transparency, Audit Controls.
- B. Price Discovery, Guaranteed Settlement, Transparency, Illiquidity.
- C. Guaranteed Settlement, Transparency, Liquidity, Audit Controls.
- D. Surveillance oversight, Guaranteed Prices, Audit Controls, Illiquidity
- E. None of the Above

**Question 11 Solution**

11.1 C

**Question 12****(29 marks)**

You are approached by Mr. Doubt, a non-discretionary client who would like to hedge his existing portfolio, currently valued at 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 approached you regarding the following. You must answer the questions below:

12.1. A fellow wealthy investor from the client's 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. Which statements are true? (3 marks)

- I. Your client has the right to exercise the option within the 2-year period;
- II. Your client has the right to sell his entire portfolio to his golf buddy;
- III. Your client can only exercise the option at the time and date of its expiry;
- IV. Your client has a maximum loss of R500 000;
- V. None of the above.

Which is true?

- A. I and II only
- B. I and III only
- C. II and III only
- D. IV only
- E. V only

12.2. Assuming the above scenario with the exception of the American option which is a Put. Which statements are false? (2 marks)

- I. Your client has an obligation in terms of this option;
- II. Your client is not hedged with this option;
- III. Your client can not lose more than R500 000;
- IV. The option can be exercised at any time in the 2 years;
- V. Your client has to pay margin on this option.

Which is false?

- A. I and II only
- B. I and III only
- C. II and III only
- D. III and IV only
- E. III and V only

12.3. 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 client's portfolio. The forwards will expire in exactly 700 days from trade date. 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 R75 000 per forward contract and Calls at R50 000 per forward contract.

12.3.1. Buying forwards means the client is \_\_\_\_\_ (2 marks)

- A. Synthetically short
- B. Has the right but not the obligation to sell the underlying
- C. Synthetically long
- D. Has the right but not the obligation to buy the underlying
- E. None of the above

- 12.3.2. Where the client buys the forward, they \_\_\_\_\_ (2 marks)
- A. partake in downward value movement on 100% of the value of his portfolio per forward contract
  - B. partake in downward value movement on 10% of the value of his portfolio per forward contract
  - C. partake in upward value movement on 100% of the value of his portfolio per forward contract
  - D. partake in upward value movement on 10% of the value of his portfolio per forward contract
  - E. None of the above
- 12.3.3. Where the client sells the forward, they \_\_\_\_\_ (2 marks)
- A. have an obligation to pay-in on downward value movement on 100% of the value of his portfolio per forward contract
  - B. have an obligation to pay-in on downward value movement on 10% of the value of his portfolio per forward contract
  - C. partake in upward value movement on 100% of the value of his portfolio per forward contract
  - D. partake in upward value movement on 10% of the value of his portfolio per forward contract
  - E. None of the above
- 12.3.4. Where the client buys the forward, they \_\_\_\_\_ (2 marks)
- A. hedge 10% of their portfolio per forward contract bought.
  - B. hedge 100% of their portfolio per forward contract bought.
  - C. gear up 10% of their portfolio per forward contract bought.
  - D. gear up 100% of their portfolio per forward contract bought.
  - E. None of the above.
- 12.3.5. Where the client's portfolio value declines and he bought the forward, they \_\_\_\_\_ (2 marks)
- A. make an actual loss on the portfolio.
  - B. hedge 10% of the portfolio loss per forward contract bought.
  - C. have to buy 10% of their portfolio per forward contract bought.
  - D. make an actual loss on the forward contract only.
  - E. None of the above.

12.3.6. Where the client's portfolio value declines and he sold the forward, they \_\_\_\_\_ (2 marks)

- A. make an actual loss on the portfolio.
- B. hedge 10% of the portfolio loss per forward contract sold.
- C. have to sell 10% of their portfolio per forward contract sold.
- D. make an actual loss on the forward contract only.
- E. None of the above.

12.3.7. Where the client's portfolio value declines and he bought a Put on the forward, they \_\_\_\_\_ (2 marks)

- A. make an actual loss on the portfolio.
- B. have a hedge in that they can exercise the option to sell the forward contract.
- C. have to sell 10% of their portfolio per Put option on the forward contract.
- D. make an actual loss on the Put on the forward contract.
- E. None of the above.

12.3.8. What is the cost of an option that will hedge 50% of his portfolio? (5 marks)

- A. R50 000.
- B. R75 000.
- C. R250 000.
- D. R375 000.
- E. R600 000.

12.3.9. What is the cost of an option that will hedge 50% of his portfolio as a percentage of the portfolio per annum: (5 marks)

- A. 1,5%.
- B. 2,83%.
- C. 3,26%.
- D. 3,13%.
- E. 6,25%.

Question 12 Solutions		
12.1	E	
12.2	C	
12.3.1	C	
12.3.2	D	
12.3.3	E	



12.3.4	C	
12.3.5	A	
12.3.6	B	
12.3.7	D	
12.3.8	D	<p>However with options on forwards, where the client <u>only buys the PUT option, for each option he is hedged against a 10% fall in the portfolios value. This insurance will cost R75 000 for 10% of the portfolio which is R1,2 million worth, meaning it costs 5 x R75 000 = R375 000 for 50% of the portfolio</u></p> <p><u>0,0625 or 6,25% to hedge the portfolio at current value.</u></p>
12.3.9	C	<p>It costs 5 x R75 000 = R375 000 for 50% of the portfolio, which is R6m</p> <p><math>\frac{R375\,000}{R6\,000\,000} = 0,0625</math> or 6,25% to hedge the portfolio at current value for 700 days.</p> <p>700 days = <math>\frac{700}{365} = \frac{700}{365} = 1,917808</math>, thus <math>\frac{6,25\%}{1,917808} = 3,2589\% = 3,26\%</math> per annum</p>

**Question 13****(1 mark)**

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

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

**Question 14****(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 15****(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 16****(1 mark)**

Short sellers of futures on the Alsi40 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

**Question 17****(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 18****(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 19****(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 20****(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

Section C Solutions		
13	B	The share price of a company has no bearing on the number of shares the company has in issue.
14	B	Market manipulation (i.e. No 2) is the only option that is not a constraint in the investment process.
15	C	
16	C	
17	E	
18	C	
19	D	
20	B	

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**END OF PAPER 1**

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## ANNEXURE: Information Sheets

Tax and Exchange Rates	
Dividend withholding tax (DWT)	20%
Securities Transfer Tax (STT)	0.25%
VAT	15%
<b>SARS directive applicable to the Jones' couple:</b>	
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
<b>Interest on short term money accounts</b>	
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

<b>BONDS: Bond price is All-in, includes brokerage and costs</b>				
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 1<sup>st</sup> June and the 1<sup>st</sup> 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)									
<b>Total</b>									
					%		%	%	