UNIVERSITY OF JOHANNESBURG

Department of Finance and Investment Management

Case Study

FPL10X7

LAST ASSESSMENT OPPORTUNITY

December 2016

Time: 4½ hours **Marks: 100**

Assessor: Mr CD Anschutz
Moderator: Ms R Brune

INSTRUCTIONS:

- This paper consists of **11** pages.
- Answer ALL questions in the **answer book** provided.
- Silent, non-programmable calculators may be used, unless otherwise instructed.
- Where applicable, show all calculations clearly.
- Answers that have been corrected by the use of Tippex or in pencil will **disqualify** you from a re-mark.
- Scratch out all open spaces and empty pages.
- Good luck!

Ned Stark, approached you two months ago with the request that you assist him with his financial planning. He is a new client referred to you by a friend.

When you make recommendations please use the assumptions and rates provided in **Annexure 1.**

Family structure

Ned Stark is 53 years old.

He is married to Catelyn (aged 51). They were married by Ante Nuptial Contract without the inclusion of the accrual.

Ned and Catelyn have five children:

- Robb who is 29 years old, financially independent and engaged to Talisa Maegyr;
- Sansa (17 years old) a grade 11 scholar;
- Arya (14 years old);
- Bran (13 years old); and
- Rickon (8 years old).

Ned also has an illegitimate son Jon Snow aged 24. He has always kept contact with his father, but is not financially dependent on him in any way.

Working history

Ned Stark was previously employed by a security company based in Pretoria called Winterfell (Pty) Ltd. An old school friend of Ned, Robert Baratheon, contacted him two months ago and offered him the position of chief operating officer of his company, Kings Landing (Pty) Ltd. Ned duly accepted the position and his last working day at Winterfell was 30 November 2016 and he started working at Kings Landing on 1 December 2016. Kings Landing is situated in Johannesburg.

Robert holds 51% of the shares in the company, Robert's wife Cersei holds 29% and their son Joffrey holds the remaining 20%. Joffrey has been earmarked to take over as managing director when Robert passes away. There is no prospect of Ned ever owning shares in the company.

Ned worked for Winterfell for 26 years and was a member of their provident fund since he started working there. The fund experienced significant growth at one stage and as a result, the cash value in the provident fund was R3 489 500 at 31 October 2016. Winterfell contributed 90% of the total contributions to the fund over the years that Ned belonged to this scheme. Over the years the total amount contributed by Winterfell towards the fund was R405 600 (including the current year's contributions until the date

of resignation) and Ned contributed the rest. Ned's contributions were never deductible for tax purposes. From 1 March 2016 up to date of resignation, Winterfell's contribution for the current tax year amounted to R38 880 and Ned's voluntary contribution (for this year) amounted to R4 320. Winterfell pays 100% of medical scheme contributions on behalf of their employees.

Ned has also been a member of a retirement annuity since 1988. The latest benefit statement shows that the cash value in the fund at 31 October 2016 is R7 231 890. Total contributions to this retirement annuity fund for the 2017 tax year will amount to R72 000 (R6 000 per month from 1 March 2016 – 28 February 2017). Since he became a member, he has increased his contributions by 8.5% on 1 March of every year. Upon investigation of his old tax returns, you can see that under the old section 11(k) a total of R290 000 had not ranked for deduction in the calculation of his tax liability for the year ended 29 February 2016.

The monthly salary Ned earned while working for Winterfell amounted to R45 000 (excluding his contributions to his medical scheme) and with the exception of the contributions to his provident fund, was not structured at all.

On top of a monthly salary of R50 000, Kings Landing will pay 70% of Ned's medical scheme contributions. For the 2016 calendar year the monthly cost of his family's medical scheme contributions amount to R11 200 and will go up by 9.6% on 1 January 2017.

Kings Landing has no formal retirement plan for their employees, but they have agreed to pay Ned's contributions to his retirement annuity on top of his salary.

Tragedy strikes

Ned's second son Bran was recently involved in a wall climbing accident and as a result is now a quadriplegic who will never walk again. The Starks appointed Jojen, a registered nurse, in September 2016 as permanent caregiver for Bran. The monthly fees for Jojen amount to R8 700 and this is not covered by their medical scheme. The hospital bills for Bran's hospital visit amounted to R257 620 of which the medical scheme only refunded 85%.

Ned's Assets and Liabilities

Assets: Ned

Asset	Note	R
Primary Residence in Pretoria	1	6 055 975
Holiday Home in the little town called Hole in the Wall	2	2 500 000
Unit Trust Portfolio	3	1 350 000
Furniture and paintings		921 000
Cars (2)		470 000

Liabilities	Note	R
Bond Primary Residence	1	Note 1
Overdraft		200 000
Cars		200 000

Notes

1. The primary residence was acquired 13 years ago (2003) for the purchase price of R1 975 000. He was able to obtain a 20 year, 100% home loan (i.e. no deposit required and the full amount was financed) at a fixed interest rate of 9%.

2. The holiday home was acquired on 1 October 1999 for a purchase price of R350 000. It was valued on 1 October 2001 at R520 000. No improvements were made.

3. The unit trust portfolio was valued at R980 000 on 1 October 2001 (as per values indicated on SARS website).

Catelyn's assets and liabilities

Catelyn inherited a flat (currently valued at R500 000) from her mother and the rental income she receives amounts to R3 000 per month.

Her liabilities:

- is a clothing account R15 000
- an overdraft on her current account R146 000
- her credit card is maxed out at R84 000

R245 000

Ned: Income and Expenses (monthly)

Item	Income	Expenses
Salary	R 50 000	
Short term insurance		R 4 000
Household expenses		R 15 000
Interest on overdraft		R 3 000
Bond		Question 1
Fuel		R 2 500
Car repayments		R 4 000
Tax		To be calculated

Ned requested that (for your calculations) you take only **his** income into account. Catelyn utilises the rental from her flat to cover her personal expenses.

Relocation to Johannesburg:

Due to Bran's situation and the reliable caregiver, they have employed, they will not relocate to Johannesburg, but Ned will rather commute between Pretoria and Johannesburg on a daily basis.

Ned's Last will and testament

Ned's last will and testament, drafted and signed in 2015 indicates that "our primary residence is bequeathed to our eldest son Robert subject to a usufruct in favour of my wife Catelyn." The holiday home is bequeathed to Jon Snow. The residue of my estate is bequeathed to discretionary testamentary family trust.

Retirement

Ned will not consider retiring before the age of 65. When he does retire, the family will relocate to the holiday village Hole in the Wall. He wants to earn an annual income equivalent to 70% of his current salary and it needs to escalate by at least 10% per year. From his family history it seems safe to assume a life expectancy of 28 years after he retires.

QUESTION 1 [36 marks]

Question 1.1
Calculate the capital gains and estate duty liability payable should Ned die today (1 December 2016). Assume last expenses and Master's fee amount to R50 000. Ignore retirement funds and his normal tax calculation for the period from 1 March 2016 until date of death (i.e. deal with CGT & estate duty resulting from his death in isolation). For THIS question, assume Ned contributed an amount of R375 000 to retirement funds since 1 March 2015 that did not rank for tax deduction. (26)

[Hint: for ease of calculation, assume that EXACTLY 13 years has passed since the house was acquired when doing any calculations that involve the house].

Question 1.2
Analyse the liquidity of his estate and make recommendations. Show all your calculations and the cost implications of your recommendations. (4)

For the rest of the paper (from here on in) you may assume that Ned has NOT died.

Question 1.3

Catelyn contacts you telephonically informing you that she is unhappy with Ned's last will and testament. She wants to know if she will be able to dispute the bequest to Jon Snow after Ned's death. Explain your course of action in dealing with Catelyn's concern. (3)

Question 1.4
Critically comment on the wording of the clause in Ned's will regarding the primary residence. (3)

QUESTION 2 [9 marks]

Question 2.1 **(2)**

At your initial meeting Ned indicated that he is weary of Robert's son (Joffrey) and that he actually does not trust him. He is quite sure that Joffrey would find something to use against him so that he does NOT have to retain his services in the event that he becomes MD after his father's death. In order to ensure that he does not burden

Catelyn (or his children) with too much debt after his death, Ned wants to be debt free as soon as possible (in case something happens to him).

He wants you to assist him with a payment plan with which he can pay off the mortgage on his house sooner. He wants to pay off his house as early as is practically possible.

Calculate the new instalment if he wants to pay off his house in 5 years' time - assume.

[Hint: for ease of calculation, assume that EXACTLY 13 years has passed since the house was acquired when doing your calculations].

Question 2.2 **(2)**

Ned is surprised by your answer as the payment is higher than he anticipated. Calculate how soon he can pay off his home loan if he increases his (original) monthly payment by R3 000.

Question 2.3 **(5)**

Ned also shows you a flier he picked up in the iStore that morning. They are advertising a new iPhone 7S. They are offering two different financing options for clients who are unable to afford the cash price of R17 499. The two options:

- Financed at 12.9%, payable over 12 months monthly in arrears; or
- Financed at 21.9%, payable over 24 months monthly in advance.

Make a recommendation to Ned which option he should take – your advice should be based purely on a total cash outflow point of view – i.e. no need to consider any other aspects.

Reproduce the table below and fill in the missing answers.

	Option 1	**Option 2**
Price to pay	R17 499	R17 499
Period	2 years	1 year
Interest rate	12.9% pa	21.9%pa
Payment made	Monthly in advance	Monthly in arrears
Instalment	**2.3.1 –?**	**2.3.2 – ?**
Total Cash flow out	**2.3.3 – (in R)**	**2.3.4 – R?**

Recommendation: ……**2.3.5**……..

QUESTION 3 [22 marks]

Ned phones you back after your meeting and says he's changed his mind about withdrawing from his retirement fund – originally he had told you that upon resignation he wanted to transfer his entire lump sum to a preservation fund as he does not want to pay tax on the lump sum. Now he wants to use his lump sum to get his family debt-free.

He wants to withdraw **the minimum amount** necessary to pay off all his and Catelyn's debt in one go and he informs you that he has read about the tax-free investment option available to long-term investors up to a maximum of R500 000 in one's lifetime. He wants to know whether he can make a one-time deposit of R500 000 as a tax-free investment.

Question 3.1

Calculate the amount that he should withdraw that (after the tax on the lump sum) will render him and his wife debt-free (i.e. the amount that the fund will pay into his bank account after withholding tax on the lump sum that will be exactly enough to pay off his long-term debt and that of his wife). (9)

Question 3.2

Advise Ned on how the tax free investment works and whether it will be allowable within the rules of tax-free investments to make a once-off deposit of R500 000. (3)

Question 3.3

Determine whether Ned will still be able to meet his own requirements for retirement after paying off his debt (as per question 3.1) given the retirement vehicles he has in place (10)

QUESTION 4 [13 marks]

Calculate Ned's income tax liability given the facts above.

QUESTION 5 [20 marks]

Ned informs you that his worst fears have come true. Robert was killed in a hunting trip and Joffrey has taken over as MD of Kings Landing. Joffrey has given him a "test". He states that Joffrey told him with a smirk on his face that he should investigate three companies which he has targeted for a takeover. He has posed specific questions to Ned and informed him that this is now one of Ned's KPI's and if the advice does not result in a favourable and profitable takeover, it would mean a failed KPI and he (Joffrey) will get rid of him.

	Targaryen	Mance Rayder	Dothraki
Issued Shares	24 000 000	24 000 000	30 000 000
Net profit attributable to ordinary shareholders	2 500 000 000	2 875 000 000	8 000 000 000
Current Market Asking price (in cents)	150 000	220 000	280 000
Standard deviation	11.93	13.48	8.06
PE ratio	14	**?**	11
Expected return	18.3%	13.2%	15.5%
Future EPS	20 550	22 640	**?**
Coefficient of Variation	**?**	1.02	**?**
Expected growth rate of net profit	7.4%	7.9%	7.5%
Expected future earnings	21.64%	**?**	**?**

5.1 Calculate the future EPS of Dothraki (in cents). (3)

5.2 Calculate the PE ratio for Mance Rayder (2)

5.3 Calculate the expected future earnings yield of Mance Rayder and of Dothraki.(2)

5.4 Calculate the coefficient of variation for Targaryen and Dothraki. (2)

5.5 How much must Mance Rayder's return be for the coefficient of variation to be equal to that of Targaryen and Dothraki. (2)

5.6 Calculate what Mance Rayder's dividend per share must be to justify a share price of R2 200. It is assumed that the dividends will grow at the same rate as the growth rate of net profit, and the expected return of 13.2% can be used in the calculation. (3)

5.7 Calculate the present value of Targaryen and Dothraki if both pay a dividend of R155 per share, using expected growth rate of net profit for dividends and the expected return provided for each company. (4)

5.8 Which share would you advise Ned to invest in when taking all the above into consideration? (2)

TOTAL 100

ANNEXURE 1

Should the details prove insufficient, you may make the necessary assumptions, provided that:

- You indicate that you have made an assumption;
- You give reasons for the assumption;
- The assumption/s are in line with the facts, needs and preferences of your clients.

For retirement calculations, assume the following:

- inflation rate at 10%
- Ned's salary will increase in line with inflation
- Rate of growth in investment products 11%
- Ned will require retirement income for 28 years after retirement