

UNIVERSITY EXAMINATIONS


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**UNISA** |   
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**MAC2602**

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## PRINCIPLES OF STRATEGY, RISK & FINANCIAL MANAGEMENT TECHNIQUES

Duration : 2 Hours

100 Marks

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 EXAMINATION PANEL AS APPOINTED BY THE DEPARTMENT.
 

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Use of a non-programmable pocket calculator is permissible.

Closed book examination.

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue.

This paper consists of 8 pages and interest tables A to D on pages i-iv.

Table A	:	Present value of R1 after n years
Table B	:	Present value of R1 per annum received for n years
Table C	:	Future value of R1 after n years
Table D	:	Future value of R1 per annum received for n years

**PLEASE NOTE:**

- All questions must be answered and calculations must be shown.
- Ensure that you are handed the correct examination answer book (blue) by the invigilator.
- Each question answered must commence on a separate page.
- Do not write in pencil.
- Ignore value-added tax and capital gains tax except where specifically mentioned in the question.
- A combined final mark of 50% is required to pass this module. This final mark is calculated as follows: (10% - obtained for compulsory assignments 01, 02 and 03) + (90% x mark obtained in this examination), subject to a subminimum of 40% for this paper.

**PROPOSED TIMETABLE**

Question	Topic	Marks	Minutes
1	Time value of money	15	18
2	Capital structure & cost of capital	20	24
3	Analysis of financial information & managing working capital	23	28
4	Capital investment & capital budgeting	22	26
5	Multiple choice questions	20	24
		100	120

**QUESTION 1 (15 marks) (18 minutes)**

- a) Mxolisi has deposited an amount of R1 500 in a bank account. This account earns simple interest of 8% per annum.

**REQUIRED:**

Calculate the amount of interest that he will earn after 2 years.

Show detailed workings.

[Use four decimal places for your calculations and round your final answer to the nearest rand.]

(2)

- b) Every year after Mary has paid all her additional expenses and treated herself to some luxuries she still has R4 200 from her annual bonus available in her bank account. She wants to save this amount and decided to deposit this amount, on an annual basis, for the next 3 years. The special savings account she decided on earns interest at 12%, compounded annually.

**REQUIRED:**

Calculate the total value of Mary's special savings account at the end of year three by using the mathematical formula.

Show the mathematical formula and detailed workings.

[Use four decimal places for your calculations and round your final answer to the nearest rand.]

(4)

- c) Helen will be investing an amount of R3 900 annually at the end of each of the following four years. She will earn compounded interest of 14% per annum.

**REQUIRED:**

Calculate the present value of Helen's investment by using your financial calculator and showing detailed inputs with regard to periods and interest rate.

[Use four decimal places for your calculations and round your final answer to the nearest rand.]

(2)

- d) Simeon wants to invest an amount now that will have a total value of R10 000 after five years. The compounded interest rate of the investment is 12% per annum.

**REQUIRED:**

Calculate the amount that Simeon will have to invest today to receive R10 000 at the end of year five by using the mathematical formula.

Show the mathematical formula and detailed workings.

[Use four decimal places for your calculations and round your final answer to the nearest rand.]

(4)

- e) Today is Michaela's birthday. She received a total of R2 000 cash as presents from her friends and family. She wants to invest this money and decided on a fixed term bank deposit for six years at an annual compounded interest rate of 16%.

**REQUIRED:**

Calculate the value of her investment at the end of year six by using the mathematical formula.

Show the mathematical formula and detailed workings.

[Use four decimal places for your calculations and round your final answer to the nearest rand.]

(3)

[15]

**QUESTION 2 (20 marks) (24 minutes)**

- a) Pete Limited has the following forms of capital funding:

Form of capital funding	R mil
Leases	80
Issued share capital	500
Non-distributable reserves	214
Bonds	230
Mortgage bonds	211
Retained income	(56)

**REQUIRED:**

Based on bookvalues, show in detail the amounts financed by equity and the amounts financed by debt as well as the total capital funding. Then calculate the capital structure and provide the debt:equity ratio. (8)

- b) The cost of equity can be determined by the Capital Asset Pricing Model (CAPM). Supply the formula of the CAPM and name the two elements that the expected rate of return required by ordinary shareholders essentially comprises of. (2)
- c) The following is an extract from DA-NC Limited's statement of financial position as at 31 August 2014:  
The given rate (in the table below) for the debt funding is after-tax rates.

Ordinary shares issued.	1 000 000
Market value of debentures at 11%	R20 500 000

DA-NC Ltd. has a beta of 0,9, a risk-free rate of 7% and a market risk premium of 6,5%. Their shares are currently trading at R82,30 per share.

**REQUIRED:**

Calculate the weighted average cost of capital (WACC) for DA-NC Limited by using the WACC formula. The cost of equity should be calculated by using the CAPM (round to full percentage).

[Set your calculator on four decimal places for the calculations of this question and round your final answers to two decimal places. Show the formulas used and detailed calculations.] (10)  
[20]

### **QUESTION 3 (23 marks) (28 minutes)**

#### **PART A**

The directors of Shine Ltd need more information regarding different types of financial analysis and have asked you to help them analyse some of their financial information. You are given the following additional information and extracts:

#### **Additional information:**

1. Shine Ltd has the following information with regards to its statement of profit or loss and other comprehensive income for the period ended 31 July 2014:

	R'000
Revenue	<u>45 336</u>
Gross profit	<u>29 447</u>
Operating costs	<u>(15 200)</u>

2. The earnings per share was 198,3 cents (2013: 213,7 cents) and they had 5 000 000 issued shares as at 31 July 2014. The current share price is R16,10 (2013: R14,00)

3. Shine Ltd has the following information with regards to its statement of financial position as at 31 July 2014:

	R'000
Non-current assets	<u>9 270</u>
Current assets	<u>6 723</u>
Capital and reserves	<u>3 109</u>
Non-current liabilities	<u>8 921</u>
Current liabilities	<u>3 963</u>

4. Shine Ltd is under new management since the beginning of 2014. The new management focused on cutting expenditure as well as paying off long-term liabilities.

#### **REQUIRED:**

- a) In performing financial analysis, there are different types of techniques one can use to make the information useful and give meaning to it. Name the different techniques that can be used in the following two stages of performing financial analysis:
  - (i) Preparation of financial information for analysis (3)
  - (ii) Analysis of financial information (3)
- b) Calculate the following ratios for Shine Ltd on 31 July 2014. (Clearly indicate the formula and specific figures used in each case.) Round your final answers to two decimal places.
  - (i) Operating profit margin (2013:29,15%) (3)
  - (ii) Current ratio (3)
  - (iii) Debt ratio (3)
  - (iv) Earnings yield (3)

**PART B**

The soccer managing and agent company, Jooky Hiltons, requested you to assist them in the management of their accounts receivables. They do offer discount to their customers but are not sure if this credit terms have a positive effect on the profitability of the company. The credit terms offered to the customers of Jooky Hiltons are: 1,5/10 net 30.

They supplied you with their debtors' aging schedule as at the end of May 2014.

<b>Jooky Hiltons</b>		
<b>Number of days outstanding</b>	<b>Balance of the account R</b>	<b>Percentage of total balance %</b>
0-10	256 200	25%
11-30	510 350	50%
31-60	132 302	13%
60 +	125 770	12%
	<b>1 024 622</b>	<b>100%</b>

**REQUIRED:**

- a) List the four areas that a company's credit policy focusses on. (2)
- b) Analyse the debtors' ageing schedule of Jooky Hiltons and indicate the percentage of customers that are not complying with the company's credit terms. (2)
- c) List one possible issue that Jooky Hiltons should look into by referring to their credit policy. (1)

[23]

**QUESTION 4 (22 marks) (26 minutes)**

Ezi-Melt Limited is considering whether to continue with their production with its existing melting-furnace or to replace it with a new melting-furnace with a fusing agent section which is expected to speed up the melting process.

Information regarding the **existing** melting furnace:

Cost price: R660 000	Current book value: R396 000
Current market value: R200 000	Useful life: 5
Current tax value: R220 000	Remaining years: 3
Realisable value end of useful life: Nil	Maximum annual production capacity: 5 600 units

Information regarding the **new** melting furnace with fusing agent section:

Cost to purchase new melting-furnace with a fusing agent section	R840 000
Useful life of new melting-furnace with a fusing agent section	3 years
Realisable value end of useful life:	Nil
Maximum annual production capacity	6 700 units

The following expected economic conditions and additional information will have to be considered:

	Year		
	1	2	3
Estimated demand for products	4 500	5 600	6 660
Selling price - per unit	170	196	225
Variable manufacturing cost - per unit	89	105	156
Fixed cost per annum - to be incurred excluding depreciation	22 000	13 000	20 000

1. The depreciation policy of the company is to depreciate assets straight line over the useful life, while the wear and tear policy of the South African Revenue Service makes provision for assets to be written-off over a period of three years, with no realisable value at the end of the period.
2. The company's cost of capital is 14% per annum and the current rate of normal taxation is 28%.
3. All the estimated cash flows will arise at the end of the year to which they are applicable except the initial outlays which occur at the beginning of the year.
4. The net present value (NPV) of the new melting-furnace with the fusing agent section was correctly calculated by the company to be R46 809.

**REQUIRED:**

- a) Name two factors that affect the capital budgeting decision. (2)
- b) Determine the net present value of the existing melting-furnace by using the net present value method. Advise whether the company should keep the existing melting-furnace or purchase the new melting-furnace with a fusing agent section and motivate your recommendation.  
[Work to the nearest Rand, round off all your factors to three decimal places and show all your calculations. (20)  
[22]

**QUESTION 5 (20 marks) (24 minutes)**

This question consists of ten multiple-choice questions. Each question must be considered independently, except where specific reference is made to information in another question. Each question has only one correct answer, and the marks per question (5.1 – 5.10) are indicated in brackets after each question.

Please answer the ten questions in your examination answer book and list the question numbers below one another, from 5.1 – 5.10, with your corresponding answer next to it, for example:

- 5.1 (a)  
5.2 (b)

The questions are as follows:

- 5.1 "It should inspire change, be easy to understand and easily communicated and be long-term in nature as it will not change."  
This is characteristics of \_\_\_\_\_?

- a) core values
- b) mission statement
- c) strategy
- d) vision statement (2)

- 5.2 Connected stakeholders are those groups that are connected through the contractual relationship they have with the organisation and they are interested in the objectives of the organisation in as far as these objectives affect their own respective goals.  
Which one of the following is **NOT** a connected stakeholder to Massmart (Pty) Ltd?

- a) Pressure groups
- b) Suppliers
- c) Customers
- d) Banks (2)

5.3 Threats are related to external factors in the SWOT analysis. The following examples are given to you:

- (1) Increasing competition that results in excess capacity.
- (2) Strikes by workers in the industry.
- (3) Extensive wastage of raw materials
- (4) Price wars among competitors.
- (5) Insufficient research and development facilities.

Which of the above are examples of “threats”?

- a) Statements (1), (2) and (3)
- b) Statements (1), (2), (4) and (5)
- c) Statements (1), (2) and (4)
- d) Statements (2), (3), (4) and (5) (2)

5.4 Which one of the following alternatives best describes the definition of “strategic financial management”?

- a) It is making decisions about the allocation of an organisation’s resources. The allocation of the organisation’s resources includes the organisation’s capital and people.
- b) Organisational arrangements, systems for gathering together human, physical financial and information resources at all levels of the system.
- c) The management and control of money and money-related operations within the business. It includes planning, organising and controlling the financial activities of a business. The financial activities include the acquiring of funds as well as the use of these funds by applying general management principles.
- d) The identification of possible strategies capable of maximising an organisation’s net present value, the allocation of scarce capital resources among the competing opportunities and the implementation and monitoring of the chosen strategy so as to achieve stated objectives.(2)

5.5 Which one of the following alternatives is **NOT** descriptive of a non-profit company?

- a) All the income and assets must be utilised for the determined objective although relevant parties may be paid a reasonable remuneration.
- b) The company is incorporated for the purpose of financial gain for its shareholders.
- c) No income or assets may be transferred to its directors, members, officers or incorporators with the exception of reasonable remuneration for services.
- d) The benefit must be to further some “public benefit” relating to one or more cultural or social activities, or communal or group activities. (2)

5.6 Which of the following statements do **NOT** correctly describe factoring?

- (1) Factoring allows the organisation to withdraw money up to the original credit limit once a certain percentage has been repaid and/or extra cash can be paid into the account and withdrawn again later.
- (2) It is created when the organisation sells a bill of exchange to the bank.
- (3) It is a form of debtor’s financing which results in improving the collection period.
- (4) Factoring is not regarded as finance secured by the debtors’ book.
- (5) The factoring agreement drawn up is described as a continuous agreement whereby the factor is compelled to take over all approved claims of the organisation depending on the terms of the agreement.

- a) Statements (1), (2) and (3)
- b) Statements (2), (3) and (5)
- c) Statements (1), (2), (3) and (5)
- d) Statements (1), (2) and (4) (2)

5.7 Which of the following statements are **TRUE** with regard to capital markets?

- (1) A capital market is a financial market in which equity and longer-term debt securities are traded.
- (2) It is also called security markets and they trade in ordinary shares, preference shares, bonds and loans that have terms of more than one year.
- (3) The Johannesburg Stock Exchange (JSE) is an equity market and one of the divisions of the capital market.
- (4) The capital market is a provider of a secondary market for trading in previously issued instruments that investors sell to one another.
- (5) Large investors, governments and organisations can invest their surplus funds on the capital market.

- a) Statements (1), (2) and (4)
- b) Statements (2), (3), (4) and (5)
- c) Statements (1), (2), (3) and (5)
- d) Statements (1), (2), (3), (4) and (5) (2)

5.8 Which one of the following alternatives is **FALSE**?

- a) Equity holders control the organisation.
- b) Interest is deductible for tax purposes where dividends normally are not deductible.
- c) In the case of liquidation, equity is repaid before debt.
- d) Equity tends to be part of the organisation for life. (2)

5.9 Which one of the following statements does **not** relate to strategic risk?

- a) Actions of the competitors.
- b) Day-to-day operations of the organisation
- c) The organisation's position and relation with the external environment in the long-term.
- d) Risk from the external environment that is not under the control of the organisation. (2)

5.10 Which one of the following alternatives is **NOT** a method to identify risk?

- a) Brainstorming
- b) Organisation charts and flow charts
- c) WACC
- d) SWOT-analysis (2)

[20]





**TABLE B / TABEL B****PRESENT VALUE OF R1 PER ANNUM RECEIVED/PAID AT THE END OF THE YEAR FOR N YEARS /  
HUIDIGE WAARDE VAN R1 PER JAAR ONTVANG/BETAAL AAN DIE EINDE VAN DIE JAAR VIR N JAAR**

Year / Jaar N	1%	2%	4%	6%	8%	10%	12%	14%	15%	16%	18%	20%	22%	24%	25%	26%	28%	30%	35%
1	0,990	0,980	0,962	0,943	0,926	0,909	0,893	0,877	0,870	0,862	0,847	0,833	0,820	0,806	0,800	0,794	0,781	0,769	0,741
2	1,970	1,942	1,886	1,833	1,783	1,736	1,690	1,647	1,626	1,605	1,566	1,528	1,492	1,457	1,440	1,424	1,392	1,361	1,289
3	2,941	2,884	2,775	2,673	2,577	2,487	2,402	2,322	2,283	2,246	2,174	2,106	2,042	1,981	1,952	1,923	1,868	1,816	1,696
4	3,902	3,808	3,630	3,465	3,312	3,170	3,037	2,914	2,855	2,798	2,690	2,589	2,494	2,404	2,362	2,320	2,241	2,166	1,997
5	4,853	4,713	4,452	4,212	3,993	3,791	3,605	3,433	3,352	3,274	3,127	2,991	2,864	2,745	2,689	2,635	2,532	2,436	2,220
6	5,795	5,601	5,242	4,917	4,623	4,355	4,111	3,889	3,784	3,685	3,498	3,326	3,167	3,020	2,951	2,885	2,759	2,643	2,385
7	6,728	6,472	6,002	5,582	5,206	4,868	4,564	4,288	4,160	4,039	3,812	3,605	3,416	3,242	3,161	3,083	2,937	2,802	2,508
8	7,652	7,325	6,733	6,210	5,747	5,335	4,968	4,639	4,487	4,344	4,078	3,837	3,619	3,421	3,329	3,241	3,076	2,925	2,598
9	8,566	8,162	7,435	6,802	6,247	5,759	5,328	4,946	4,772	4,607	4,303	4,031	3,786	3,566	3,463	3,366	3,184	3,019	2,665
10	9,471	8,983	8,111	7,360	6,710	6,145	5,650	5,216	5,019	4,833	4,494	4,192	3,923	3,682	3,571	3,465	3,269	3,092	2,715
11	10,368	9,787	8,760	7,887	7,139	6,495	5,937	5,453	5,234	5,029	4,656	4,327	4,035	3,776	3,656	3,544	3,335	3,147	2,752
12	11,255	10,575	9,385	8,384	7,536	6,814	6,194	5,660	5,421	5,197	4,793	4,439	4,127	3,851	3,725	3,606	3,387	3,190	2,779
13	12,134	11,343	9,986	8,853	7,904	7,103	6,424	5,842	5,583	5,342	4,910	4,533	4,203	3,912	3,780	3,656	3,427	3,223	2,799
14	13,004	12,106	10,563	9,295	8,244	7,367	6,628	6,002	5,724	5,468	5,008	4,611	4,265	3,962	3,824	3,695	3,459	3,249	2,814
15	13,865	12,849	11,118	9,712	8,559	7,606	6,811	6,142	5,847	5,575	5,092	4,675	4,315	4,001	3,859	3,726	3,483	3,268	2,825
16	14,718	13,578	11,652	10,106	8,851	7,824	6,974	6,265	5,954	5,669	5,162	4,730	4,357	4,033	3,887	3,751	3,503	3,283	2,834
17	15,562	14,292	12,166	10,477	9,122	8,022	7,120	6,373	6,047	5,749	5,222	4,775	4,391	4,059	3,910	3,771	3,518	3,295	2,840
18	16,398	14,992	12,659	10,828	9,372	8,201	7,250	6,467	6,128	5,818	5,273	4,812	4,419	4,080	3,928	3,786	3,529	3,304	2,844
19	17,226	15,678	13,134	11,158	9,604	8,365	7,366	6,550	6,198	5,877	5,316	4,844	4,442	4,097	3,942	3,799	3,539	3,311	2,848
20	18,046	16,351	13,590	11,470	9,818	8,514	7,469	6,623	6,259	5,929	5,353	4,870	4,460	4,110	3,954	3,808	3,546	3,316	2,850
21	18,857	17,011	14,029	11,764	10,017	8,649	7,562	6,687	6,312	5,973	5,384	4,891	4,476	4,121	3,963	3,816	3,551	3,320	2,852
22	19,660	17,658	14,451	12,042	10,201	8,772	7,645	6,743	6,359	6,011	5,410	4,909	4,488	4,130	3,970	3,822	3,556	3,323	2,853
23	20,456	18,292	14,857	12,303	10,371	8,883	7,718	6,792	6,399	6,044	5,432	4,925	4,499	4,137	3,976	3,827	3,559	3,325	2,854
24	21,243	18,914	15,247	12,550	10,529	8,985	7,784	6,835	6,434	6,073	5,451	4,937	4,507	4,143	3,981	3,831	3,562	3,327	2,855
25	22,023	19,523	15,622	12,783	10,675	9,077	7,843	6,873	6,464	6,097	5,467	4,948	4,514	4,147	3,985	3,834	3,564	3,329	2,856
26	22,795	20,121	15,983	13,003	10,810	9,161	7,896	6,906	6,491	6,118	5,480	4,956	4,520	4,151	3,988	3,837	3,566	3,330	2,856
27	23,560	20,707	16,330	13,211	10,935	9,237	7,943	6,935	6,514	6,136	5,492	4,964	4,524	4,154	3,990	3,839	3,567	3,331	2,856
28	24,316	21,281	16,663	13,406	11,051	9,307	7,984	6,961	6,534	6,152	5,502	4,970	4,528	4,157	3,992	3,840	3,568	3,331	2,857
29	25,066	21,844	16,984	13,591	11,158	9,370	8,022	6,983	6,551	6,166	5,510	4,975	4,531	4,159	3,994	3,841	3,569	3,332	2,857
30	25,808	22,396	17,292	13,765	11,258	9,427	8,055	7,003	6,566	6,177	5,517	4,979	4,534	4,160	3,995	3,842	3,569	3,332	2,857
40	32,835	27,355	19,793	15,046	11,925	9,779	8,244	7,105	6,642	6,234	5,548	4,997	4,544	4,166	3,999	3,846	3,571	3,333	2,857
50	39,196	31,424	21,482	15,762	12,234	9,915	8,304	7,133	6,661	6,246	5,554	4,999	4,545	4,167	4,000	3,846	3,571	3,333	2,857

**TABLE C / TABEL C**

**FUTURE VALUE OF R1 RECEIVED NOW, AFTER N YEARS / TOEKOMSTIGE WAARDE VAN R1 NOU ONTVANG NA N JAAR**

Year / Jaar N	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%
1	1,0100	1,0200	1,0300	1,0400	1,0500	1,0600	1,0700	1,0800	1,0900	1,1000	1,1200	1,1400	1,1500	1,1600	1,1800	1,2000
2	1,0201	1,0404	1,0609	1,0816	1,1025	1,1236	1,1449	1,1664	1,1881	1,2100	1,2544	1,2996	1,3225	1,3456	1,3924	1,4400
3	1,0303	1,0612	1,0927	1,1249	1,1576	1,1910	1,2250	1,2597	1,2950	1,3310	1,4049	1,4815	1,5209	1,5609	1,6430	1,7280
4	1,0406	1,0824	1,1255	1,1699	1,2155	1,2625	1,3108	1,3605	1,4116	1,4641	1,5735	1,6890	1,7490	1,8106	1,9388	2,0736
5	1,0510	1,1041	1,1593	1,2167	1,2763	1,3382	1,4026	1,4693	1,5386	1,6105	1,7623	1,9254	2,0114	2,1003	2,2878	2,4883
6	1,0615	1,1262	1,1941	1,2653	1,3401	1,4185	1,5007	1,5869	1,6771	1,7716	1,9738	2,1950	2,3131	2,4364	2,6996	2,9860
7	1,0721	1,1487	1,2299	1,3159	1,4071	1,5036	1,6058	1,7138	1,8280	1,9487	2,2107	2,5023	2,6600	2,8262	3,1855	3,5832
8	1,0829	1,1717	1,2668	1,3686	1,4775	1,5938	1,7182	1,8509	1,9926	2,1436	2,4760	2,8526	3,0590	3,2784	3,7589	4,2998
9	1,0937	1,1951	1,3048	1,4233	1,5513	1,6895	1,8385	1,9990	2,1719	2,3579	2,7731	3,2519	3,5179	3,8030	4,4355	5,1598
10	1,1046	1,2190	1,3439	1,4802	1,6289	1,7908	1,9672	2,1589	2,3674	2,5937	3,1058	3,7072	4,0456	4,4114	5,2338	6,1917
11	1,1157	1,2434	1,3842	1,5395	1,7103	1,8983	2,1049	2,3316	2,5804	2,8531	3,4785	4,2262	4,6524	5,1173	6,1759	7,4301
12	1,1268	1,2682	1,4258	1,6010	1,7959	2,0122	2,2522	2,5182	2,8127	3,1384	3,8960	4,8179	5,3503	5,9360	7,2876	8,9161
13	1,1381	1,2936	1,4685	1,6651	1,8856	2,1329	2,4098	2,7196	3,0658	3,4523	4,3635	5,4924	6,1528	6,8858	8,5994	10,699
14	1,1495	1,3195	1,5126	1,7317	1,9799	2,2609	2,5785	2,9372	3,3417	3,7975	4,8871	6,2613	7,0757	7,9875	10,147	12,839
15	1,1610	1,3459	1,5580	1,8009	2,0789	2,3966	2,7590	3,1722	3,6425	4,1772	5,4736	7,1379	8,1371	9,2655	11,974	15,407
16	1,1726	1,3728	1,6047	1,8730	2,1829	2,5404	2,9522	3,4259	3,9703	4,5950	6,1304	8,1372	9,3576	10,748	14,129	18,488
17	1,1843	1,4002	1,6528	1,9479	2,2920	2,6928	3,1588	3,7000	4,3276	5,0545	6,8660	9,2765	10,761	12,468	16,672	22,186
18	1,1961	1,4282	1,7024	2,0258	2,4066	2,8543	3,3799	3,9960	4,7171	5,5599	7,6900	10,575	12,375	14,463	19,673	26,623
19	1,2081	1,4568	1,7535	2,1068	2,5270	3,0256	3,6165	4,3157	5,1417	6,1159	8,6128	12,056	14,232	16,777	23,214	31,948
20	1,2202	1,4859	1,8061	2,1911	2,6533	3,2071	3,8697	4,6610	5,6044	6,7275	9,6463	13,743	16,367	19,461	27,393	38,338
21	1,2324	1,5157	1,8603	2,2788	2,7860	3,3996	4,1406	5,0338	6,1088	7,4002	10,804	15,668	18,822	22,574	32,324	46,005
22	1,2447	1,5460	1,9161	2,3699	2,9253	3,6035	4,4304	5,4365	6,6586	8,1403	12,100	17,861	21,645	26,186	38,142	55,206
23	1,2572	1,5769	1,9736	2,4647	3,0715	3,8197	4,7405	5,8715	7,2579	8,9543	13,552	20,362	24,891	30,376	45,008	66,247
24	1,2697	1,6084	2,0328	2,5633	3,2251	4,0489	5,0724	6,3412	7,9111	9,8497	15,179	23,212	28,625	35,236	53,109	79,497
25	1,2824	1,6406	2,0938	2,6658	3,3864	4,2919	5,4274	6,8485	8,6231	10,835	17,000	26,462	32,919	40,874	62,669	95,396

**TABLE D / TABEL D**

**FUTURE VALUE OF R1 PER ANNUM RECEIVED FOR N YEARS AT THE END OF EACH YEAR /**  
**TOEKOMSTIGE WAARDE VAN R1 PER JAAR ONTVANG VIR N JAAR AAN DIE EINDE VAN ELKE JAAR**

Year / Jaar N	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%
1	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000
2	2,0100	2,0200	2,0300	2,0400	2,0500	2,0600	2,0700	2,0800	2,0900	2,1000	2,1200	2,1400	2,1500	2,1600	2,1800	2,2000
3	3,0301	3,0604	3,0909	3,1216	3,1525	3,1836	3,2149	3,2464	3,2781	3,3100	3,3744	3,4396	3,4725	3,5056	3,5724	3,6400
4	4,0604	4,1216	4,1836	4,2465	4,3101	4,3746	4,4399	4,5061	4,5731	4,6410	4,7793	4,9211	4,9934	5,0665	5,2154	5,3680
5	5,1010	5,2040	5,3091	5,4163	5,5256	5,6371	5,7507	5,8666	5,9847	6,1051	6,3528	6,6101	6,7424	6,8771	7,1542	7,4416
6	6,1520	6,3081	6,4684	6,6330	6,8019	6,9753	7,1533	7,3359	7,5233	7,7156	8,1152	8,5355	8,7537	8,9775	9,4420	9,9299
7	7,2135	7,4343	7,6625	7,8983	8,1420	8,3938	8,6540	8,9228	9,2004	9,4872	10,089	10,730	11,067	11,414	12,142	12,916
8	8,2857	8,5830	8,8923	9,2142	9,5491	9,8975	10,260	10,637	11,028	11,436	12,300	13,233	13,727	14,240	15,327	16,499
9	9,3685	9,7546	10,159	10,583	11,027	11,491	11,978	12,488	13,021	13,579	14,776	16,085	16,786	17,519	19,086	20,799
10	10,462	10,950	11,464	12,006	12,578	13,181	13,816	14,487	15,193	15,937	17,549	19,337	20,304	21,321	23,521	25,959
11	11,567	12,169	12,808	13,486	14,207	14,972	15,784	16,645	17,560	18,531	20,655	23,045	24,349	25,733	28,755	32,150
12	12,683	13,412	14,192	15,026	15,917	16,870	17,888	18,977	20,141	21,384	24,133	27,271	29,002	30,850	34,931	39,581
13	13,809	14,680	15,618	16,627	17,713	18,882	20,141	21,495	22,953	24,523	28,029	32,089	34,352	36,786	42,219	48,497
14	14,947	15,974	17,086	18,292	19,599	21,015	22,550	24,215	26,019	27,975	32,393	37,581	40,505	43,672	50,818	59,196
15	16,097	17,293	18,599	20,024	21,579	23,276	25,129	27,152	29,361	31,772	37,280	43,842	47,580	51,660	60,965	72,035
16	17,258	18,639	20,157	21,825	23,657	25,673	27,888	30,324	33,003	35,950	42,753	50,980	55,717	60,925	72,939	87,442
17	18,430	20,012	21,762	23,698	25,840	28,213	30,840	33,750	36,974	40,545	48,884	59,118	65,075	71,673	87,068	105,93
18	19,615	21,412	23,414	25,645	28,132	30,906	33,999	37,450	41,301	45,599	55,750	68,394	75,836	84,141	103,74	128,12
19	20,811	22,841	25,117	27,671	30,539	33,760	37,379	41,446	46,018	51,159	63,440	78,969	88,212	98,603	123,41	154,74
20	22,019	24,297	26,870	29,778	33,006	36,786	40,995	45,762	51,160	57,275	72,052	91,025	102,44	115,38	146,63	186,69
21	23,239	25,783	28,676	31,969	35,719	39,993	44,865	50,423	56,765	64,002	81,699	104,77	118,81	134,84	174,02	225,03
22	24,472	27,299	30,537	34,248	38,505	43,392	49,006	55,457	62,873	71,403	92,503	120,44	137,63	157,41	206,34	271,03
23	25,716	28,845	32,453	36,618	41,430	46,996	53,436	60,893	69,532	79,543	104,60	138,30	159,28	183,60	244,49	326,24
24	26,973	30,422	34,426	39,083	44,502	50,816	58,177	66,765	76,790	88,497	118,16	158,66	184,17	213,98	289,49	392,48
25	28,243	32,030	36,459	41,646	47,727	54,865	63,249	73,106	84,701	98,347	133,33	181,87	212,79	249,21	342,60	471,98

**MEMORANDUM –  
OCTOBER/NOVEMBER 2014**

**MAC2602**

**QUESTION 1 (15 marks) (18 minutes)**

**(a) Simple interest**

Study guide 1, p. 83 (Revised guide 1, p. 79)

$$\begin{aligned}\text{Simple interest for 2 years @ 8\% per annum} &= (\text{R1 500} \times 8\%) \times 2 \\ &= (\text{R1 500} \times 0,08) \times 2 \\ &= \text{R120} \times 2 \\ &= \text{R240}\end{aligned}$$

(2)

**(b) Future value – ordinary annuity**

Study guide 1, p. 87, 123 (Revised guide 1, p. 83, 119)

$$\begin{aligned}FV \text{ annuity} &= I \times \left[ \frac{(1+i)^n - 1}{i} \right] \\ &= \text{R4 200} \times \left[ \frac{(1+0,12)^3 - 1}{0,12} \right] \\ &= \text{R4 200} \times \left[ \frac{(1,12)^3 - 1}{0,12} \right] \\ &= \text{R4 200} \times \left[ \frac{(0,4049) - 1}{0,12} \right] \\ &= \text{R4 200} \times 3,3744 \\ &= \text{R14 172,00 (rounded to the nearest rand)}\end{aligned}$$

(4)

**(c) Present value – ordinary annuity (Financial calculator)**

Study guide 1, p. 129 – 130 (Revised guide 1, p. 125 - 126)

3 900 +/- PMT  
4 n  
14 i  
PV = 11 363

Or PV = annuity x present value of R1 per period  
And Table B at 14% for 4 years = 2,914  
then = R3 900 x 2,914  
= R11 364,60  
= R11 365 (rounded to the nearest rand)

(2)

**(d) Present value – single payment**

Study guide 1, p. 91, 127 (Revised guide 1, p. 87, 123)

$$PV = \left[ \frac{FV}{(1+i)^n} \right]$$

$$PV = \left[ \frac{10\,000}{(1+0,12)^5} \right]$$

$$PV = \left[ \frac{10000}{(1,12)^5} \right]$$

$$PV = \left[ \frac{10\,000}{1,7623} \right]$$

PV = R5 674,40

PV = R5 674 (rounded to the nearest rand)

(4)

**(e) Future value – single payment**

Study guide 1, p. 86, 121 (Revised guide 1, p. 82, 117)

$$FV = PV (1+i)^n$$

$$= R2\,000 \times (1+0,16)^6$$

$$= R2\,000 \times (1,16)^6$$

$$= R2\,000 \times (2,4364)$$

$$= R4\,872,79$$

$$= R4\,873 \text{ (rounded to the nearest rand)}$$

(3)

[15]

**QUESTION 2 (20 marks) (24 minutes)**

a) Debt: Equity ratio for Pete Limited

(SG 1, p. 186 – 187) (Revised guide 1, p. 175 - 184)

Calculate the amount financed by equity:

<b>Equity funding</b>	<b>R mil</b>
Issued share capital	500
Non-distributable reserves	214
Retained income	(56)
<b>Total</b>	<b>658</b>

Calculate the amount financed by debt:

<b>Debt funding</b>	<b>R mil</b>
Leases	80
Bonds	230
Mortgage bonds	211
<b>Total</b>	<b>521</b>

Total capital funding = R658 + R521 = R1 179 million

Capital structure:

$$\begin{aligned}
\text{Equity } (658/1\ 179 \times 100/1) &= 55,81\% \\
\text{Debt } (521/1\ 179 \times 100/1) &= 44,19\% \\
\text{D:E ratio} &= 44,19:55,81
\end{aligned}
\tag{8}$$

b) Formula of CAPM:

$$K_e = R_f + \beta(R_m - R_f)$$

The two elements in the CAPM that the expected rate of return required by ordinary shareholders essentially comprises of:

(SG 1, p. 204 – 207) (Revised guide 1, p. 200 - 203)

i. **Risk-free rate**

ii. **Market risk premium ( $R_m - R_f$ )**

*\*Market risk is the risk associated with the economical environment in which ALL organisations do business and which is influenced by interest rates, exchange rates, oil prices and various other factors that are difficult to quantify.*

(2)

c) Calculation of WACC (SG 1, p. 214 – 218) (Revised guide 1, p. 210 - 214)

Cost of equity calculation by using CAPM ( $k_e$ )

$$k_e = R_f + \beta(R_m - R_f)$$

$$k_e = 0,07 + 0,9(0,065)$$

$$k_e = 0,07 + 0,0585$$

$$k_e = 0,1285 \text{ (rounded to 13\%)}$$

Take note that the market risk premium was given as 6,5%

Therefore  $(R_m - R_f) = 0,065$

While  $R_f$  is given as 0,07

It follows that  $(R_m - R_f) = (R_m - 0,07) = 0,065$  AND  $R_m = 0,135$  or 13,5%

Using the formula:

$$WACC = \frac{k_e v_e + k_d v_d}{v_e + v_d}$$

$$WACC = \frac{(13\% \times 82300\ 000) + (11\% \times 20500000)}{82300\ 000 + 20500000}$$

$$WACC = \frac{10\ 699\ 000 + 2\ 255\ 000}{102\ 800\ 000}$$

$$WACC = \frac{12\ 954\ 000}{102\ 800\ 000}$$

$$WACC = 0,1260$$

$$WACC = 12,60\%^{**}$$



Calculations:

Market value of equity ( $v_e$ ):

Current market price: given as R82,30 per share.

Number of shares: 1 000 000 shares as per statement of financial position.

$v_e =$  Number of shares x current market value per share.

$v_e =$  1 000 000 x R82,30. Therefore  $v_e =$  **R82 300 000**

Market value of debt ( $v_d$ ) and cost of debt ( $v_e$ )

Given as R20 500 000 and 11% (already after tax)

Or Using the table: (to give an understanding of how the formula links to the table format)

Type of capital	Total amount at market values	% of total capital (weight)	Cost of capital	Weighted cost of capital
	R	%	%	%
E: Equity - Ordinary shares $V_e$	82 300 000	E/V 80,06	13 <sup>④</sup>	10,41 <sup>①</sup>
+ D: Debt - Debentures $V_d$	20 500 000	D/V 19,94	11 <sup>⑤</sup>	2,19 <sup>②</sup>
= V: Value	102 800 000	100,00		12,60

(10)

①  $82\,300\,000 / 102\,800\,000 = 80,06\%$  and  $80,06\% \times 13\% = 10,41\%$

②  $20\,500\,000 / 102\,800\,000 = 19,94$  and  $19,94 \times 11\% = 2,19\%$

④ Calculated by using CAPM in (c)

⑤ After-tax cost - given

[20]

**QUESTION 3 (23 marks) (28 minutes)**

**PART A**

- a) Different techniques in performing financial analysis (**Name** the different techniques that can be used in the following two stages of performing financial analysis)

**STAGE**

- i. **PREPARATION OF FINANCIAL INFORMATION FOR ANALYSIS, Scenario i**

(SG 2, p. 11)

- Comparative financial statements
- Indexed financial statements
- Common size statements

(3)

**STAGE**

- ii. **ANALYSIS OF FINANCIAL INFORMATION, Scenario ii** (SG 2, p. 11 + 14)

- Failure prediction
- Trend analysis
- Ratio analysis

(3)

b) Ratio analysis

i) **Operating profit margin** (SG 2, p. 23)

$$\frac{\text{Operating profit}}{\text{Revenue}} \times 100 = \frac{14\,247^1}{45\,336} \times 100 = 31,43 \%$$

$$^1 29\,447 - 15\,200 = 14\,247$$

Gross profit – operating cost = operating profit

(3)

ii) **Current ratio:** (SG 2, p. 30)

$$\text{Current assets: Current liabilities} = \frac{2014}{6\,723 : 3\,963} = 1,70 : 1$$

[Indicates how many **times** current assets cover current liabilities]

(3)

iii) **Debt ratio** (SG 2, p. 37)

$$\frac{\text{Total debt}}{\text{Total assets}} \times 100 = \frac{12\,884^1}{15\,993^2} \times 100 = 80,56 \%$$

$$^1 8\,921 + 3\,963 = 12\,884$$

$$^2 9\,270 + 6\,723 = 15\,993$$

[**Percentage** of all debt forms covering the assets]

(3)

iv) **Earnings yield** (SG 2, p. 43)

$$\frac{\text{Earnings per share (EPS)}}{\text{Share price}} \times 100 = \frac{198,3 \text{ cents} \text{ or } \mathbf{R1,983}}{1\,610,0 \text{ cents} \text{ or } \mathbf{R16,10}} = 12,32 \%$$

[EPS was given and need not to be calculated first]

EPS being Earnings or net profit/ Number of shares issued

(3)

Part A total **18**

(a) **LIST 4 areas on which a company's CREDIT POLICY focus:**

**1. Creditworthiness** (financial strength of customers and their ability to repay debt)

**2. Credit period** (length of time to pay outstanding balance)

**3. Discounts** (for early payment – before credit period expires)

**4. Collection policy** (how to collect overdue accounts payable)

(2)

(b) **ANALYSIS OF THE DEBTORS AGEING SCHEDULE** (SG 2, p. 58 - 59)

Analyse the ageing schedule **AND** indicate the percentage of customers that are not complying with the company's credit terms.

The ageing schedule of Jooky Hiltons indicates that **several of its customers are not complying with its credit terms**. A large proportion of the accounts receivable balance, equalling **25% (13%+12%), is more than 30 days old**. This is the case in spite of Jooky Hiltons's credit terms that require full payment within 30 days. (2)

(c) With reference to their credit policy list ONE possible issue that Jooky Hilton should look into.

**Creditworthiness of customers**

(Based on an analysis of the ageing schedule, it seems that Jooky Hiltons are too lenient in granting credit to customers. This may have increased their revenue, but could also result in higher bad debts.)

**OR**

**Credit period**

(The credit period granted to trade debtors of Jooky Hiltons is 30 days but 25% of customers exceed the period.)

**OR**

**Discounts**

(It seems that the small discount of 1,5% offered by Jooky Hiltons to their customers was not sufficient to motivate them to pay earlier.)

**OR**

**Collection policy**

(Based on an analysis of the ageing schedule, it seems that they might have to use stricter debt collecting procedures and work on a more aggressive collection policy. Jooky Hiltons have to be careful not to damage relationships with their customers.)

**OR**

**Credit terms**

(This include the credit period as well as discounts)

(1)

Part B total 5

[23]

**QUESTION 4 (22 marks) (27 minutes)**

(a) Factors listed below influence the capital allocation/budgeting decision: Topic 8, SG 2, p. 85 – 150 and (SG 2, p. 93)

**Name ANY TWO of the 8 listed factors**

- the returns of the individual projects under consideration
- availability of funds
- current and target capital structure of the organisation
- legal factors
- lending policies of financial institutions
- immediate need for the project
- future earnings

- risks and uncertainties

(2)

**(b) Calculation of Net present value of EXISTING melting furnace**

	Year			
	0	1	2	3
	R	R	R	R
Current realisable value forfeited (Opportunity cost)	(200 000)	-	-	-
Sales ①	-	765 000	1 097 600	1 260 000
Variable cost②	-	(400 500)	(588 000)	(873 600)
Fixed cost	-	(22 000)	(13 000)	(20 000)
Annual net cash flow before tax	-	342 500	496 600	366 400
Taxation ③		(39 900)	(139 048)	(102 592)
Net cash flow	(200 000)	302 600	357 552	263 808
Factor at 14% [Table A: $1/(1+i)^n$ ]	1,000	0,877	0,769	0,675
Net present value (200 000) – 718 407 = <b>518 407</b>	(200 000)	265 380	274 957	178 070

**Calculations:**

① Sales

Yr 1 4 500 x R170 = R765 000

Yr 2 5 600 x R196 = R1 097 600

Yr 3 5 600 x R225 = R1 260 000 (**Maximum capacity for existing melting-furnace is 5 600 units**)

② Variable cost

Yr 1 4 500 x R89 = R400 500

Yr 2 5 600 x R105 = R588 000

Yr 3 5 600 x R156 = R873 600 (**Maximum capacity for existing melting-furnace is 5 600 units**)

③ Taxation

	Year		
	1	2	3
	R	R	R
Realisation/scraping allowance forfeited ④	20 000	-	-
Sales	765 000	1 097 600	1 260 000
Variable cost	(400 500)	(588 000)	(873 600)
Fixed cost	(22 000)	(13 000)	(20 000)
Wear and tear (R660 000 / 3)	(220 000)	-	-
Taxable amount	142 500	496 600	366 400
Tax payable at 28%	39 900	139 048	102 592

④ Realisation/Scraping allowance forfeited

Tax value	R 220 000
<u>Less:</u> Realisable value	<u>200 000</u>
Realisation allowance forfeited by modifying and not selling	<u><u>20 000</u></u>

Net present value existing melting furnace calculated to be R518 407.

Net present value NEW melting furnace given to be R46 809.

**Advice/recommendation and motivation thereof:**

The existing melting-furnace should not be replaced as it delivers a higher net present value than the new melting furnace based on the expected economic conditions.

The project with the highest net present value should be chosen.

[22]

How the NPV of the new melting furnace was calculated. **NOT PART OF THE SOLUTION – NPV GIVEN IN THE QUESTION as R46 809**

	Year			
	0	1	2	3
	R	R	R	R
Cost price	(840 000)	-	-	-
Sales ①	-	765 000	1 097 600	1 498 500
Variable cost ②	-	(400 500)	(588 000)	(1 038 960)
Fixed cost excl. depreciation	-	(22 000)	(13 000)	(20 000)
Annual net cash flow before tax		342 500	496 600	439 540
Taxation ③		(17 500)	(60 648)	(44 671)
Net cash flow	(840 000)	325 000	435 952	394 869
Factor at 14% [Table A]	1,000	0,877	0,769	0,675
Net present value	(840 000)	285 025	335 247	266 537
<b>R46 809</b>				

Calculations:

① Sales

$4\,500 \times R170 = R765\,000$

$5\,600 \times R196 = R1\,097\,600$

**$6\,660 \times R225 = R1\,498\,500$**

② Variable cost

$4\,500 \times R89 = R400\,500$

$5\,600 \times R105 = R588\,000$

**$6\,660 \times R156 = R1\,038\,960$**

③ Taxation

	Year		
	1	2	3
	R	R	R
Sales	765 000	1 097 600	1 498 500
Variable cost	(400 500)	(588 000)	(1 038 960)
Fixed cost	(22 000)	(13 000)	(20 000)
Net cash inflow before tax	342 500	496 600	493 540
Wear and tear 28%	(280 000)	-	-
Taxable amount	62 500	216 600	159 540
Tax payable at 28%	17 500	60 648	44 671

**QUESTION 5 (20 marks) (24 minutes)**

- 5.1 Alternative **(b)** is the correct answer (SG 1, p. 6) (2)
- 5.2 Alternative **(a)** is the correct answer (SG 1, p. 17) (Revised SG 1, p. 13) (2)  
 Pressure groups are secondary stakeholders (external stakeholders).
- 5.3 Alternative **(c)** is the correct answer (SG 1, p. 35 - 36) (Revised SG 1, p. 30 - 32) (2)  
 Statements (3) and (5) are examples of internal factors which are weaknesses.
- 5.4 Alternative **(d)** is the correct answer (SG 1, p. 63) (Revised SG 1, p. 59) (2)  
 Alternative (a) is the definition for strategic planning (SG 1, p. 32) (Revised SG 1, p. 28)  
 Alternative (b) is the definition for organisational structure (SG 1, p. 73) (Revised SG 1, p. 69)  
 Alternative (c) is the definition for traditional financial management (SG 1, p. 62) (Revised SG 1, p. 58)
- 5.5 Alternative **(b)** is the correct answer (SG 1, p. 70) (Revised SG 1, p. 66) because it is descriptive of **profit companies** and not of non-profit companies. (2)
- 5.6 Alternative **(d)** is the correct answer (SG 1, p. 172 - 173) (Revised SG 1, p. 168) (2)  
 Statement (1) relates to revolving credit (SG 1, p.173) (Revised SG 1, p. 169)  
 Statement (2) relates to a banker's acceptance (SG 1, p. 172) (Revised SG 1, p. 168)  
 Statement (4) factoring IS regarded as financing secured by the debtor's book (SG 1, p. 172) (Revised SG 1, p. 168)
- 5.7 Alternative **(d)** is the correct answer (SG 1, p. 154 - 155) (Revised SG 1, p. 151 - 152) (2)  
 All the statements are true with regard to capital markets.
- 5.8 Alternative **(c)** is the correct answer (SG 1, p. 162) (Revised SG 1, p. 158). In the case of liquidation debt is repaid before equity. (2)
- 5.9 Alternative **(b)** is the correct answer (SG 2, p. 178 - 181)  
 Strategic risk focuses on the long-term and has more to do with the organisation's position in relation with the external environment on the long-term  
 Operational risks are more concerned with the **day-to-day operations** of the organisation. (SG 2, p.181) (2)
- 5.10 Alternative (c) is the correct answer (SG 2, p. 190) (2)

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