



Department of Finance and Investment Management

Financial Management 2A/ Investment Management 2A

BSR2A01/BLB2A01/IVM02A2

LAST ASSESSMENT OPPORTUNITY

1 JUNE 2016

Time: 190 Minutes

Marks: 150

Assessors: Mr SR de Wet
Ms W Mabuto
Ms R van Gaalen

Moderator: Mr S Modiba

INSTRUCTIONS:

- You are allowed 5 minutes reading time **before the assessment begins** during which you should read the question paper and, if you wish, highlight and/or make notes on the question paper. However, you will **not** be allowed, **under any circumstances**, to open the answer book and start writing or use your calculator during this reading time.
- This paper consists of **17** pages (including this page).
- Answer ALL questions in the **answer book** provided.
- Start each question on a **new page**.
- Silent, non-programmable calculators may be used, unless otherwise instructed.
- Where applicable, show all calculations clearly.
- Answers with Tippex and in pencil will **not** be marked.
- Scratch out all open spaces and empty pages.
- Round off all final answers to **TWO** decimal places.

SECTION	Topic	Marks	Time
	Reading time		10 minutes
A	Multiple Choice Questions	50	60 minutes
B	Short Questions	50	60 minutes
C	Long Question	50	60 minutes
		150	190 minutes

SECTION A
QUESTION 1

[50 MARKS]
(50 marks)

REQUIRED:

Answer the following questions by choosing the correct answer. Write the **letter** you have chosen as your answer next to the question number.

1.1 Identify which of the following is South Africa's current (2016) credit rating as per Standard & Poor's rating

- A. C – with a negative outlook
 - B. BBB - with a negative outlook
 - C. BBB – with a positive outlook
 - D. CCC – with a positive outlook
- (1)**

1.2 The key variables in the shareholder wealth maximization process are:

- A. earnings per share and risk.
 - B. timing of cash flows and risk.
 - C. earnings per share and share price.
 - D. profits and risk.
- (1)**

1.3 It is always important to identify the frequency of compounding of an interest rate because it indicates :

- A. the type of effective rate it is.
 - B. the type of nominal rate it is.
 - C. the interest rate it is.
 - D. how much interest you will pay.
- (1)**

1.4 The legal document specifying the rights of bondholders and duties of the issuing corporation is called a(n):

- A. bond indenture
 - B. call provision
 - C. terms of trade
 - D. form 210
- (1)**

1.5 The voting procedure where a shareholder grants authority to another individual to vote his/her shares is called:

- A. democratic voting
 - B. cumulative voting
 - C. straight voting
 - D. proxy voting
- (1)**

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1.6 Identify which one of the following statements concerning the weighted average cost of capital (WACC) is correct:

- A. WACC will decrease if a company's debt–equity ratio increases.
- B. If the corporate tax rate decrease, a company's WACC will decrease.
- C. If the corporate tax rate increase, a company's WACC will increase.
- D. WACC will increase if a company's debt-equity ratio increases. **(1)**

1.7 Identify which one of the following statements regarding the cost of equity is correct

- A. The return required by equity holders is generally lower than the return required by debt providers due to the risk involved.
- B. The cost of equity takes tax into consideration when the cost of equity is calculated because it is taxed in the hands of the shareholders.
- C. The cost of equity does not take risk into account.
- D. The return required by equity holders is generally higher than the return required by debt providers due to the risk involved. **(1)**

1.8 Identify which of the following transactions would NOT affect the current ratio.

- A. Borrow long term funds to finance additional property, plant and equipment
- B. Issue long-term debt to buy inventory
- C. Issue ordinary shares to reduce current liabilities
- D. Sell property, plant and equipment to reduce accounts payable **(1)**

1.9 Identify which ONE of the following risk is not a source of systematic risk

- A. Interest rates
- B. Personnel changes
- C. Inflation rate
- D. The business cycle **(1)**

1.10 Identify which ONE of the following statements regarding risk and return is INCORRECT:

- A. A portfolio of two negatively correlated assets has less risk than either of the individual assets
- B. Combining negatively correlated assets can reduce the overall variability of returns
- C. A portfolio that combines two assets having perfectly positively correlated returns cannot reduce the portfolio's overall risk below the risk of the least risky asset

- D. A portfolio combining two assets with less than perfectly positive correlation can increase total risk to a level above that of either the components (1)

- 1.11 Twenty-five semi-annual payments are made to pay off a loan. Interest is at 18.6% p.a. compounded semi-annually.

Calculate the initial amount of the loan, if payment commences six months from now and repayments have a value of R625 each. (Select the closest answer)

- A. R5 993
B. R5 299
C. R3 312
D. R3 123 (2)

- 1.12 A business will purchase a new printing machine in six years' time as current one will be scrapped by then. They decide to set up a fund to prepare for the replacement of the current printing machine, starting at the end of the first year. They calculate that they will need R235 000 to finance the machine in six years' time.

Calculate how much money must be invested each year if the interest on money invested in the fund is expected to be 17% p.a. compounded annually. (Select the closest answer)

- A. R31 632
B. R27 889
C. R25 524
D. R21 872 (2)

- 1.13 Mpho wishes to purchase a vehicle from a dealer in Johannesburg for R150 000. His bank is prepared to lend him the money on condition that he undertakes to repay the loan monthly in advance over a period of 36 months.

Calculate what his monthly instalment will be if interest is to be charged at 16.5% per annum compounded monthly in advance. (Select the closest answer)

- A. R5 310
B. R24 851
C. R21 331
D. R5 238 (2)

The following information should be used to answer questions 1.14, 1.15 & 1.16.

Jackson Central has a six year 8% annual coupon bond with a par value, trading at a discount of 15%. Earls Enterprises has a twelve year 8% semi-annual coupon bond with a par value, trading at 10% premium. Both bonds have a yield to maturity of 6% p.a. compounded annually.

1.14 Determine which of the following is correct regarding the par values of both bonds:

	Jackson Central	Earls Enterprises
A.	R1 000	R850
B.	R850	R1 000
C.	R1 100	R850
D.	R850	R1 100

(2)

1.15 Calculate the **current price** of **Earls Enterprise** assuming it is has a par value of R1 200.

- A. R1 063
- B. R1 267
- C. R1 277
- D. R1 200

(2)

1.16 Assuming **Jackson Central** has a current price of R1 100 and a par value of R900. Identify which of the following statements is correct if the yield to maturity increases to 7% p.a. compounded annually

- A. The current price of the bond will decrease by 24.25%
- B. The current price of the bond will decrease in value by R118.96
- C. The current price of the bond will increase in value by R118.96
- D. The current price of the bond will increase by 10.82%

(2)

1.17 Angelina's made two announcements concerning their ordinary shares today. First, the company announced that their next annual dividend has been set at R2.16 a share. Secondly, the company announced that all future dividends will increase by 4% annually.

Calculate the amount you should pay to purchase a share if your goal is to earn a 10% rate of return

- A. R36.00
- B. R21.60
- C. R27.44
- D. R34.92

(2)

- 1.18 The shares of Eddie's Engines Ltd sell for R25.71 per share. Two years ago, the shares will paid a dividend of R1.80 per share. Eddie's has established a pattern of increasing their dividends by 4% annually and expects to continue doing so.

Calculate the market rate of return on these shares.

- A. 11.00%
- B. 11.28%
- C. 11.35%
- D. 11.88%

(2)

- 1.19 Shares of the Samson Company are currently selling for R21 a share and pay an annual divided that increases by 5% annually. The market rate of return on this share is 9%

Calculate the amount of the next dividend that Samson Company will pay.

- A. R0.80
- B. R0.84
- C. R1.21
- D. R1.10

(2)

- 1.20 Construction Unlimited has a target capital structure of 40% equity and 60% debt. Management is considering a number of projects that will require additional capital. The capital will be raised by issuing ordinary shares at an after tax cost of 18% and an additional loan that bear interest at an after tax cost of 12%.

Identify which ONE of the projects they should invest in.

- A. Project A will generate a return of 9.00%
- B. Project B will generate a return of 18.00%
- C. Project C will generate a return of 15.60%
- D. All the projects should be accepted

(2)

- 1.21 The R157 government bond is currently yielding a return of 7.5% and the market risk premium is currently 5%. If the beta of Construction Unlimited is 1.4, calculate the cost of ordinary shares.

- A. 4.00%
- B. 14.5%
- C. 15.5%
- D. The cost cannot be calculated in this instance

(2)

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- 1.22 Barrie's Parts had been primarily funded through ordinary share capital in the past. Preference shares have been issued to fund new growth. The 12% preference shares are currently trading at R55 each and were issued at a par value of R50.

Calculate the cost of the preference shares

- A. 10.50%
- B. 12.00%
- C. 10.90%
- D. 9.50%

(2)

The following information should be used to answer questions 1.23, 1.24, 1.25 & 1.26.

The working capital balances in the most recent financial statements of NewDesigns were as follows:

Inventory	R 98 972.00
Accounts receivable	R 95 890.41
Accounts payable	R 42 259.38
Purchases	R 440 705.00
Total sales for the year(all on credit)	R 500 000.00
The company's gross profit percentage is 15%	

- 1.23 Determine the **average age of inventory**

- A. 85.00 days
- B. 72.25 days
- C. 70.00 days
- D. 35.00 days

(2)

- 1.24 Determine the **average collection period**

- A. 85.00 days
- B. 72.25 days
- C. 70.00 days
- D. 35.00 days

(2)

- 1.25 Determine the **accounts payable period**

- A. 85.00 days
- B. 72.25 days
- C. 70.00 days
- D. 35.00 days

(2)

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- 1.26 Maccers Fast Foods purchased a new machine from a supplier for R1 mil. The supplier offered credit terms of 2/10 net 45. The bank current interest rate the bank is offering is 16%. Assume 365 days in the year

Calculate the cost of giving up the discount.

- A. 21 %
- B. 26 %
- C. 16 %
- D. 10 %

(2)

- 1.27 A firm has a debt-equity ratio of 0.40. Calculate the total debt ratio.

- A. 0.29
- B. 0.33
- C. 0.67
- D. 1.40

(2)

- 1.28 A firm has net working capital of R400, net non-current assets of R2 400, sales of R6 000, and current liabilities of R800. Determine how many rands worth of sales are generated from every R1 in total assets.

- A. 1.33
- B. 1.67
- C. 1.88
- D. 2.78

(2)

- 1.29 Determine in which asset management should invest to ensure that the lowest level of risk per expected return is generated.

	Liverpool	Manchester
Expected return	18	16.25
Standard deviation	12.75	14.5

- A. Liverpool as it will generate the highest expected return
- B. Manchester as it will generate the highest standard deviation
- C. Liverpool as it will generate a coefficient of variation of 0.71
- D. Liverpool as it will generate a coefficient of variation of 1.41

(2)

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1.30 Determine the return of the portfolio given the following information:

ASSET	WEIGHT	RETURN
Liverpool	35%	20%
Manchester	15%	35%
Chelsea	25%	6%
Ashton villa	25%	12%

- A. 6.75%
- B. 9.50%
- C. 16.75%
- D. 18.25%

(2)

SECTION B

[50 MARKS]

QUESTION 2

(12 marks)

This question consists of THREE parts

PART A

WOODY furnishes you with his expected annual cash flows from 2016 to 2020.

Year	Cash flow
2016	R50 000
2017	R56 000
2018	R64 000
2019	R72 000
2020	R80 000

REQUIRED:

- 2.1. Calculate the compound annual growth rate associated with the cash flow stream. **(2)**

PART B

Christa refuses to retire until her retirement account has a balance of at least R30 000 000. Chris also refuses to make any additional deposits into the account. The account currently has a balance of R10 000 000 and earns 10% per year, compounded quarterly.

REQUIRED:

- 2.2. Calculate how many years does Christa have before she will retire? **(4)**

PART C

You are interested in purchasing a motor vehicle to the value of R275 000. You are able to get 100% vehicle financing from the bank at 13% compounded quarterly over 5 years. The finance agreement requires monthly repayments to be made.

REQUIRED:

- 2.3. Calculate the monthly repayments to the bank **(6)**

QUESTION 3

(15 marks)

Ragaven Pty Ltd needs to raise R15 million for an expansion project that was discussed at a recent board meeting. In order to achieve this purpose, the company will issue 30 year, 7% semi-annual coupon bonds.

REQUIRED:

- 3.1 Calculate how many of the bonds Ragaven Pty Ltd would need to issue in order to raise the R15 million, assuming the market required returns for similar bonds is 9.5%. (Correct to zero decimal places) **(8)**
- 3.2 Explain the difference between the yield to maturity and the coupon rate. **(2)**
- 3.3 State the relationship that would need to exist between the coupon rate and the yield to maturity for bonds to be issued at:
- (a) a premium **(1)**
 - (b) a discount **(1)**
 - (c) par **(1)**
- 3.4 Companies pay rating agencies such as Fitch and Moody's to rate their bonds, and the cost can be substantial. Companies that have their bonds rated do so purely on a voluntary basis. Explain why companies would still choose to have their bonds rated. **(2)**
-

QUESTION 4

(8 marks)

Divine Footwear wishes to assess the value of its Casual Shoe Division. This division has debt with a market value of R12 500 000 and no preference shares. Its weighted average cost of capital is 10%. The divisions estimated free cash flow each year from 2016 through to 2019 is given in the following table:

Year (t)	Free cash flow (FCF_t)
2016	R800 000
2017	R1 200 000
2018	R1 400 000
2019	R1 500 000

Beyond 2019 to infinity, the firm expects its free cash flow to grow at 4% annually.

REQUIRED:

- 4.1 Use the free cash flow valuation model to estimate the value of Divine's entire Casual Shoe Division. **(6)**
 - 4.2 Use your findings in 4.1 along with the data provided above to find the value of the ordinary shares in Casual Shoes Division. **(2)**
-

QUESTION 5

(15 marks)

Imperial Group, a multinational company, is evaluating the performance of two of its investments in Africa; a 50% investment in Hyundai SA and a 50% investment in Mitsubishi SA. The risk manager is tasked to identify ways to mitigate risk and to assist the financial manager in making the most optimal investment decision.

Huydai and Mitsubishi have the following expected returns:

Year	Possible return Hyundai	Possible return Mitsubishi
2016	7.00%	-5.00%
2017	16.50%	11.30%
2018	14.68%	18.28%

The financial manager has heard that if he keeps adding more and more shares to his portfolio, the standard deviation of his portfolios will eventually decrease to zero.

REQUIRED:

- 5.1 If Imperial Group invested in Hyundai SA and Mitsubishi SA, Determine the average portfolio return for the Imperial Group over the next 3 years. **(4)**
- 5.2 Critically evaluate the risk manager's statement that the standard deviation of the portfolio will be decreased by adding more shares to the portfolio.
(no calculations should be performed) **(3)**
- 5.3 Determine in which ONE of the two shares (Hyundai or Mitsubishi) you should invest in if you can only invest in ONE share and not a portfolio of shares. Imperial want to minimise their risk as much as possible with this investment.

Probability	Possible return Hyundai	Possible return Mitsubishi
20%	7.00%	-5.00%
50%	16.50%	11.30%
30%	14.68%	18.28%

The weighted return for both shares is 12%. **(8)**

SECTION C

[50 MARKS]

QUESTION 6

(25 marks)

Mr Mathe owns a local building supplies company, Build Big Pty (Ltd), which has only one branch in Johannesburg. Build Big has been successful over the past 10 years since Mr Mathe inherited the company from his dad. However, in the past two years Mr Mathe has been struggling with cash flow problems in his company. Every time Mr Mathe asked his accountant “What’s going wrong? We never have cash!” His accountant’s response is always, “but we do – look at our profit figures”.

The accountant has provided you with an extract of the latest unaudited financial statements (refer to the following page):

Unaudited Statement of Financial Position of Build Big Pty (Ltd) as at 31 December 2015 (R000s)		
	2015	2014
ASSETS		
Non-current assets	4 100	3 950
Plant and equipment at carrying amount	2 500	2 350
Intangible fixed assets	100	100
Other fixed assets	1 500	1 500
Current assets	6 400	5 550
Inventories	2 750	2 650
Trade receivables	3 400	2 800
Cash and cash equivalents	250	100
TOTAL ASSETS	10 500	9 500
EQUITY AND LIABILITIES		
Equity attributable to equity holders	5 500	5 500
Issued ordinary share capital (R1 par)	3 500	3 500
Retained earnings	2 000	2 000
Non-current liabilities	4 350	3 550
Long term debt	2 050	2 050
Provisions	2 300	1 500
Current liabilities	650	450
Bank overdraft (25%)	150	70
Trade payables	300	200
Accrued expenses	200	180
TOTAL LIABILITIES	5 000	4 000
TOTAL EQUITY AND LIABILITIES	10 500	9 500

Unaudited Extract of the Statement of Profit and Loss of Build Big Pty (Ltd) for the year ended 31 December 2015		
	2015	2014
	R'000	R'000
Revenue	7 250	6 550
Cost of sales	(4 000)	(3 500)
Gross profit	3 250	3 050
Operating expenses	(1 050)	(1 000)
Other expenses (depreciation)	(385)	(350)
Operating profit	1 815	1 700
Finance costs	(200)	(200)
Profit before tax	1 615	1 500
Income tax expense	(452)	(420)
Profit after tax	1 163	1 080

Furthermore, at a meeting you discover the following:

- Mr Mathe provides his customers with a 60 days credit policy (i.e. interest free) or a 1% cash discount if payments are made on the date of purchase.
- Mr Mathe also believes in having the best relationship with his suppliers so he pays his suppliers two weeks after they have delivered even though they offer him 45 days credit policy.

REQUIRED:

- 6.1** Write a report to Mr Mathe where you evaluate Build Big Pty (Ltd) liquidity as well and its activity and make recommendations towards its improvement where possible. **(25)**

Tips:

- Your report should include
 - Total asset turnover ratio
 - Average collection period
 - Average payment period
 - Inventory turnover
 - Current ratio
 - Quick ratio
- For each of the above ratios provide one point of evaluation and one point of improvement
- No averages are required in the ratios.
- One mark will be awarded for each correct ratio **including its relevant unit of measurement, if applicable.**
- Provide comments and evaluations under the respective topics provided.
- **NO MARKS** will be awarded for simply stating an increase or decrease in the ratios.
- Each valid statement within your comments will earn one mark.
- You may assume 365 days in a given year.
- Show **ALL** your workings.
- Please round **ALL** your answers to 2 decimal places where required.

QUESTION 7

(25 marks)

M-Netshowtime Ltd is a subscription based service provider for premium TV shows. They have been in operation for 15 years and have a significant local market share. The CEO of M-Netshowtime recently announced that they would like to expand their service into Africa.

Big Apple Ltd provided the following information regarding their financial position.

Assets			R
Non-Current assets			4 800 000
Current Assets			985 000
Inventory		280 000	
Receivables		540 000	
Cash		165 000	
TOTAL ASSETS			<u>5 785 000</u>
Equity and Liabilities			
Equity			
Ordinary shares	note 1	280 000	
Preference shares	note 2	400 000	
Liabilities			
Non-current Liabilities			
Long term Loan	note 3	4 000 000	
Current Liabilities			
Payables		885 000	
Bank overdraft	note 4	220 000	
TOTAL EQUITY AND LIABILITIES			<u>5 785 000</u>

Note 1

Ordinary shares were issued at a cost of R4 each. The shares are currently trading at R15.00 per share.

Note 2

The 10% preference shares trade currently at a price of R50 each. A total of 100 000 preference shares were issued six years ago at a price of R40 per share.

Note 3

The company negotiated a R4 000 000 loan from BMB bank for the expansion. The loan will be repaid in monthly instalments of R85 000 over the next 5 years.

Note 4

An overdraft facility has been negotiated with the financial institution at the prime interest rate. The overdraft facility is a source of funding the net working capital needs of the company.

General information

- Bonds: RSA 5 year fixed term bonds is currently trading at 9.75%
- RSA 157 12.41%
- The market risk premium is 8%
- The current company tax rate is 28%
- BETA is 1.5

REQUIRED:

- 7.1 Determine the weighted average cost of capital of M-Netshowtime. **(15)**
- 7.2 List and explain the key assumptions on which the cost of capital is determined. **(6)**
- 7.3 Discuss any other factors that M-Netshowtime Ltd should consider in their decision to expand their service to Africa. **(4)**

*******END*******