



UNIVERSITY
OF
JOHANNESBURG

DEPARTMENT OF ACCOUNTANCY

FINANCIAL MANAGEMENT 200

BSR2000/FMA200

LAST ASSESSMENT OPPORTUNITY – NOVEMBER 2014

ASSESSORS: Ms E Kocks
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MODERATOR: Ms M Weber

TIME: 3 HOURS

MARKS: 150

- THE ASSESSMENT OPPORTUNITY PAPER CONSISTS OF 5 QUESTIONS AND 10 PAGES (front page included).
- SILENT NON-PROGRAMMABLE CALCULATORS ARE ALLOWED.
- SHOW ALL CALCULATIONS.
- START EVERY QUESTION AT THE TOP OF A PAGE.
- IF YOU USE TIPPEX OR PENCIL ON YOUR ANSWER SHEET, YOU DO NOT QUALIFY FOR A REMARK.
- SCRATCH OUT OPEN SPACES AND EMPTY PAGES, OTHERWISE NO REMARK.

QUESTION 1**(30 MARKS)**

Fred Dreyer, owner of Freddie's Cookies (Pty) Ltd (hereby known as Freddie's), is an industrial manufacturer of delicious biscuits. He noticed a gap in the market for pre-made biscuit dough to be used by moms who want to make their own biscuits but don't have the time. Fred's biscuit dough endeavour became a huge success after it was launched in 2008.

Using only natural and organic ingredients in the dough, Freddie's offers homemade goodness. Each frozen dough portion is the same size, shape and weight, thereby guaranteeing consistency and no measuring required. Biscuit dough is sold in pre-made packs. All biscuit dough uses the same basic ingredients, including: butter, sugar, eggs, flour, baking powder and flavourants.

Details pertaining to the production process are set out below:

At the beginning of the process, the butter and sugar are poured by two different machines into industrial bowls. This mixture is then mixed with a large industrial electric beater until the mixture lightens in colour and consistency. This process is called creaming, which incorporates tiny air bubbles into the dough, making the biscuits light and fluffy. The creamed mixture then moves on a conveyer belt to the next station.

At this point (70% stage of completion), the eggs, flour, baking powder and flavourants are mechanically added to the creamed mixture. All ingredients are now combined which forms a sticky biscuit dough. The dough is inspected by production labourers at the 80% stage of completion mark to ensure it has not been over mixed as this eliminates air bubbles and causes the dough to be dense. Normal losses amount to 3% of the kilograms of biscuit dough introduced during the month. Losses are sold to a pig farmer for R3.50 per kilogram. After inspection, the biscuit dough then proceeds to the third station where it is mechanically poured into plastic sachets of 750 grams each and frozen before it gets transported to wholesalers.

The following data summarises Freddie's actual production and costs for the month ended 30 June 2014:

Opening work-in-progress

4 000 kilograms, (40% complete) consisting of the following costs:

Butter and sugar	R28 500
Conversion cost	R37 300

Biscuit dough introduced during the month	17 000 kilograms
Biscuit dough completed	18 000 kilograms
Closing work-in-progress (90% complete)	2 000 kilograms

QUESTION 1 (Continued)**Actual costs incurred during June 2014:**

Butter and sugar	R101 000
Flour, eggs, baking powder and flavourants	R96 000
Other costs	
- Labour	Note 1
- Electricity	Note 2
- Rental of the factory	Note 3
- Marketing and sales commission	R8 000
- Other indirect manufacturing costs	R82 800

Note 1: Freddie's workforce consists of researchers and production labourers. The researchers are constantly researching alternative flavours and combinations to improve Freddie's biscuit dough. They are employed on a full time basis and paid a total of R50 000 per month. Four production labourers oversee the production process. These labourers are all paid a wage of R12 per hour and work 160 hours a month based on the assumption that only 12 000 kilograms of biscuit dough or less will be completed during a month. If production exceeds this amount, wages increase by a total of R2 500 as overtime will be clocked by these labourers.

Note 2: Electricity was R35 000 for the month of June 2014. Of this amount, 20% relates to electricity used in the research building and 10% for the administrative building.

Note 3: Rental of the factory for the year amounted to R120 000.

Additional information

- Conversion costs are incurred evenly throughout the process.
- Freddie's uses the first-in-first-out (FIFO) stock valuation method.
- The abnormal loss units do not share in the normal loss allocation.

REQUIRED:

- (a) Prepare the production cost statement of Freddie's for the month ended 30 June 2014. **(22)**

Please round all figures to the nearest whole number, except for the cost per equivalent unit; which should be rounded to the nearest two decimal places.

- (b) Prepare the general ledger account for the abnormal loss of Freddie's for the month ended 30 June 2014. **(3)**

- (c) Explain why it is more appropriate to use the FIFO method rather than the weighted average method for Freddie's. In addition, discuss how the calculations would have differed if the weighted average method was applied by Freddie's. **(5)**

QUESTION 2**(40 MARKS)**

KwaZulu-Natal is known as the garden province of South Africa as a result of its lush vegetation, variety of landscapes, subtropical climate and warm waters. The sugar industry is dependent on products supplied by farmers in this province.

Nkuhlu Ltd is a sugar producing company near Wartburg in KwaZulu-Natal. It has two sugar cane farms that have 1 000 square metres of sugar cane plantation on each farm. Nkuhlu Ltd plants sugar cane which is harvested to produce various products. One harvest of sugar cane grows for two months of the year.

The average costs of growing sugar cane are as follows: Irrigation cost per 500 square metres per month is R160 000. Labourers are paid wages for harvesting at R10 for every 200 kilograms harvested.

20 000 tons of sugar cane was harvested at each farm during the current harvesting period.

After being harvested, the sugar cane is transported to the processing plant and the cost of transport is R15 per ton.

Processing takes place in the following three stages: Stripping; Crushing and Juicing; and either Crystallisation or Inversion.

Further details about each stage:

Stripping

- The sugar cane is processed at the plant by firstly stripping the leaves off the sugar cane at a cost of R25 per ton of sugar cane. 20% of the sugar cane harvested consists of leaves. These leaves are sold to farmers at R0.25 per kilogram.

Crushing and Juicing

- The remaining (stripped) sugar cane is then crushed and mashed to extract the juice.
- A by-product called bagasse results from the crushing and this amounts to 3 tons for every 10 tons of sugar cane entering this process. The bagasse is used for electricity generation in the sugar mill by the burning thereof. This practise results in a saving of electricity. The electricity that would have been paid is R1 200 000 for one harvest.
- This process entails mixing the sugar cane with water. 1 ton of water is added for every 2 tons of stripped sugar cane. This process has a cost of R200 per ton of the stripped sugar cane.

Crystallisation or Inversion

- The juice that results from the crushing process is subjected to either one of two processes, namely: the crystallisation process or the inversion process. The crystallisation process results in the manufacture of sugar crystals whereas the inversion process results in the manufacture of golden syrup.
- The crystallisation process: This process results in dry sugar crystals after evaporation. The cost of the crystallisation process is R12 000 000 in total. Molasses (a type of syrup) remains after all the sugar has been extracted by the crystallisation process. The crystallisation process results in 15% molasses, 35% evaporated water and 50% dry sugar crystals.
- The inversion process: This is a process whereby the juice is converted into golden syrup. The cost of the inversion process is R8 000 000 per harvest.

QUESTION 2 (Continued)

Sugar crystals can be sold at R20 per kilogram, molasses at R0.75 per 500 grams and golden syrup at R12 per 500 grams.

Nkuhlu Ltd uses the juice from the crushing process in a ratio of 70:30 for the crystallisation process and the inversion process respectively.

Nkuhlu Ltd's policy is to deduct the net realisable value of the by-product from the joint costs.

REQUIRED:

- (a) Name the two by-products other than bagasse in the process described above. Supply reasons. (4)
- (b) Explain whether or not the cane sugar leaves are considered waste products. (2)
- (c) Calculate the total joint costs incurred in the production of sugar crystals and golden syrup for the current harvesting period of two months. (9)
- (d) Calculate the production (in tons) for sugar crystals and for golden syrup. (7)
- (e) Calculate the total net sales value of sugar cane leaves and of molasses. (4)
- (f) Assume that 13 440 tons of sugar crystals and 11 520 tons of golden syrup are produced. Calculate the joint costs allocated to the sugar crystals and the golden syrup by means of the following methods:
 - Physical measures method. (5)
 - Net realisable value method. (7)
- (g) List two disadvantages of the net realisable value method of allocating joint costs that Nkuhlu Ltd should have taken into account in determining the method of allocation. (2)

QUESTION 3**(40 MARKS)****PART A****(14 Marks)**

Sibisi Ltd (hereafter "the company") was formed three years ago by a group of research scientists to produce and sell a new medicine that they had invented. The technology involved in the medicine's manufacture is both complex and expensive. Because of this, the company is faced with a high level of fixed costs.

This is of particular concern to Dr Skosana, the company's chief executive. She recently arranged a conference of all management staff to discuss company profitability. Dr Skosana showed the managers how average unit cost fell as production volume increased and explained that this was due to the company's heavy fixed cost base. "It is clear," she said, "that as we produce closer to the plant's maximum capacity of 70 000 packs, the average cost per pack falls. Producing and selling as close to that limit as possible must be good for company profitability." The data she used is reproduced below:

Production volume (packs)	40 000	50 000	60 000	70 000
Average cost per unit*	R430	R388	R360	R340
Current sales and production volume	65 000 packs			
Selling price per pack	R420			

*Defined as the total of fixed and variable costs, divided by the production volume.

You are a member of the Sibisi Ltd management accounting team and shortly after the conference you are called to a meeting with Theo Thoola, the company's marketing director. He is interested in knowing how profitability changes with production. Theo Thoola also tells you of a discussion he has recently had with Dr Skosana. She had once more emphasised the need to produce as close as possible to the maximum capacity of 70 000 packs. Theo Thoola has the possibility of obtaining an export order for an extra 5 000 packs but because the competition is strong, the selling price would only be R330 per pack. Dr Skosana has suggested that this order should be rejected as it is below cost and so will reduce company profitability.

He is interested in knowing how profitability changes with production and whether the rejection of the 5 000 pack export order is correct.

REQUIRED:

In order to assist Theo Thoola you must please calculate:

- (a) the amount of Sibisi Ltd's fixed costs; (5)
- (b) the profit of the company at its current sales volume of 65 000 packs; (3)
- (c) the break-even point in units; (2)
- (d) the margin of safety expressed as a percentage; (2)
- (e) the change in profits from accepting the order for 5 000 packs at R330 each. (2)

QUESTION 3 (Continued)**PART B****(26 MARKS)**

Sibisi Ltd is evaluating the profitability of a new diabetes vaccine for type 1 and 2 diabetes. They believe it will be profitable as recent research shows that 40% of the current South African population will have diabetes in three years' time.

The two different vaccines had the following unit costs for the twelve months of 2013:

	Vaccine A (R/unit)	Vaccine B (R/unit)
Direct materials	1.40	1.50
Direct labour	1.20	2.30
Variable production overheads	0.70	0.80
Fixed production overheads	1.10	1.10
Other variable overheads	0.15	0.20
Fixed non-manufacturing overheads	0.50	0.50

Production and sales of the two vaccines for the 2013 year were:

	Vaccine A (000 units)	Vaccine B (000 units)
Production (normal capacity levels)	250	100
Sales	225	110

The unit costs of opening stock were the same as those for the 2013 year listed above.

Dr Skosana asked the management accounting team to assist with answers to the following discussion points.

REQUIRED:

- Explain whether absorption or marginal costing would show a higher company profit for the period, and calculate the difference in profit depending on which method is used. **(5)**
- Calculate the break-even total sales revenue for the period (to the nearest R000) based on the above mix of sales. The selling prices of products A and B were R5,70 and R6,90 per unit respectively. **(9)**
- Describe two differences between the accountant's and the economist's model of CVP analysis. **(2)**
- Name two underlying assumptions for the break-even model. Give an example of circumstances in which the assumptions are violated. **(4)**
- Describe and distinguish between the three different approaches to presenting cost-volume-profit relationships in graphical format. **(6)**

QUESTION 4**(20 MARKS)**

Hanre Maree has always dreamed about starting her own business. However, starting a business will require start-up capital and Hanre has indicated to you that she would prefer to be employed for the next six years in order to be able to save up enough funds to start her catering business.

Her goal is to have R200 000 available to her after five years (in 2019) in order to allow her to purchase cutlery and crockery, followed by a further R250 000 after six years from today (in 2020) to purchase kitchen equipment and finally a monthly basic salary of R25 000 per month during the first year of trading in 2021.

General Information:

- Assume that savings will be deposited into an investment fund with earnings of 15% per year, compounded quarterly.
- Hanre will contribute towards the fund on a monthly basis. She will deposit an equal amount on a monthly basis over the next 6 years.
- Hanre is planning on maintaining her contributions towards this investment fund for the next six years.
- Hanre will only close her investment account once she has withdrawn her last monthly salary during her first year of trading.

REQUIRED:

- (a) Calculate the present value of the total funds that Hanre will require to start her own business? **(10)**
- (b) Calculate Hanre's required monthly contribution to this investment fund, based on the capital required, to start her own business? **(4)**
- (c) How does a perpetuity differ from an annuity? **(2)**
- (d) Explain the difference between nominal and effective interest rates **(3)**
- (e) What is the current prime lending rate in South Africa? **(1)**

QUESTION 5

(20 MARKS)

Danai Keller is an academic trainee who has completed her first year of a training contract. After a year of not having significant expenses, Danai had accumulated some money. She wanted to start investing in her future. She explored different investment opportunities and decided that investing in equities would be best suited to her needs.

While researching a number of companies to invest in, Danai picked a strong potential company that she is strongly considering buying the shares of. The company's name is Johnson Sunwise Ltd.

Johnson Sunwise Ltd (hereafter 'Johnson') is Africa's largest sunblock distributor. The company offers a variety of quality products for the local and international sunblock markets. The company has been operating for the past 35 years and turnover and profits have been steadily on the rise. Extracts of the financial statements have been provided below:

**JOHNSON SUNWISE LTD
EXTRACTS OF FINANCIAL STATEMENTS**

YEAR	2014	2013
Statement of Comprehensive Income (000's)	ZAR	ZAR
Turnover	2 869 031	2 201 721
Gross profit	1 391 823	1 058 107
Interest & Finance Charges	55 911	25 292
Taxation	208 920	172 888
Profit after Interest & Tax	493 991	355 580
Dividends paid	101 232	71 887
Headline earnings per share (cents)	144.7	103.7
Dividends per share (cents)	48.0	30.0
EPS-Bottom Line (cents)	145.0	99.8
Statement of Financial Position (000's)	ZAR	ZAR
Total Shareholders Interest	1 106 768	1 066 481
Long Term Liabilities	538 308	268 379
Current Liabilities	1 491 229	774 796
Total Liabilities	2 029 537	1 043 175
Fixed Assets	1 209 804	531 042
Intangible Assets	532 781	441 872
Current Assets	1 393 720	1 136 742
Statement of Cashflows (000's)	ZAR	ZAR
Cash from operations	869 699	626 354
Decrease/Increase working capital	(18 005)	(44 224)
Net interest paid/received	(55 911)	(25 292)
Taxation paid	(176 626)	(102 325)
Ordinary dividend	(101 232)	(71 887)
Cash from investment activities	(793 936)	(282 724)
Cash from financing activities	124 472	54 387
Sundry Statement (000's)		
Nr of Ordinary Shares in Issue @ Year End	378 372	377 019
Market share price (cents)	4 450	1 510

QUESTION 5 (Continued)

Danai is not aware of significant events in the economy **except** that reports on global warming suggest that South African weather is becoming hotter.

Danai did not have any further information regarding the performance of the company. She approached you, a financial management expert, to analyse the company and give her feedback as to whether you think she should invest in the company or not.

REQUIRED:

Advise Danai as to whether she should buy shares in the company or not.

Your answer should include discussions on:

- Gearing (8)
 - Interest Cover
 - Debt ratio
 - Debt to Equity
- Profitability (4)
 - ROE
 - ROA
 - NP%
- Investor ratios (6)
 - Dividend Yield
 - PE Ratio
 - EPS
- Conclusion (2)

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