



DEPARTMENT OF ACCOUNTING

FINANCIAL MANAGEMENT 200

SPECIAL ASSESSMENT OPPORTUNITY: JANUARY 2020

ASSESSORS: Mrs E Kocks
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MODERATOR: Mr MM Kabini

TIME: 187.50 Minutes

MARKS: 125

- THE ASSESSMENT OPPORTUNITY PAPER CONSISTS OF 4 QUESTIONS AND 8 PAGES (front page included).
- SILENT NON-PROGRAMMABLE CALCULATORS MAY BE USED.
- SHOW ALL CALCULATIONS.
- START EVERY QUESTION ON A PAGE.
- IF YOU USE TIPPEX OR PENCIL ON YOUR ANSWER SHEET, YOU DO NOT QUALIFY FOR A REMARK.

Q1 = BLUE

Q2 = GREEN

Q3 = RED

Q4 = YELLOW

QUESTION 1**(25 MARKS)**

TwinHelpers Limited manufactures two-ply tissues that requires two separate processes for its completion.

The following information is available for Process 1 for the period:

Losses arise from rejected material. Normal losses are 20% of input. The losses arise at the end of the process. Rejected material can be sold for R1.28 per kilogram (kg).

Material input	9 000 kg, cost R35 634
Direct labour	3 450 hours at R8.40 per hour
Manufacturing overheads	R7.40 per direct labour hour
Material transferred to process 2	7 300 kg

The following information is available for Process 2 for the period:

Losses arise from rejected material. Normal losses are 10% of the input that reached the final inspection stage. The losses arise at the end of the process. Rejected material from this process can be sold for R1.45 per kg.

Direct labour	2 500 hours at R8.40 per hour
Manufacturing overheads	R7.60 per direct labour hour
Completed units	4 700 kg
Closing work-in-progress (CWIP)	2 000 kg (note 1)

Note 1:

The CWIP is 50 percent complete for labour and overheads.

There was no opening work-in-progress for both processes.

The abnormal loss shares in the normal loss allocation.

REQUIRED:

(a)	Prepare the following general ledger accounts for Process 1 and Process 2: <ul style="list-style-type: none"> • Process 1 account; and • Process 2 account. <p><i>Please show all calculations and round amounts to the nearest two decimal places.</i></p>	(25)
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QUESTION 2**(35 MARKS)**

KwaZulu-Natal is known as the garden province of South Africa because 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 were 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 stripped sugar cane (i.e. 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 costs. The electricity that would have been paid is R1 200 000 for one harvest.
- This process entails mixing the sugar cane with water. One 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 and 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. Nkuhlu Ltd uses the juice from the crushing process in a ratio of 70:30 for the crystallisation process and the inversion process respectively. The crystallisation process results in the manufacture of sugar crystals whereas the inversion process results in the manufacture of golden syrup.
- The crystallisation 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 is where 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's policy is to deduct the net realisable value of the by-product from the joint costs.

(1 ton = 1 000 kilograms)

(1 kilogram = 1 000 grams)

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) of sugar crystals and golden syrup for the current harvesting period.	(7)
(e)	Calculate the total net sales value of sugar cane leaves and 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 net-realisable value method for the current harvesting period.	(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)
TOTAL MARKS		(35)

QUESTION 3**(30 MARKS)**

Jogiyat Burgers, a manufacturing and take-away business, operates a process costing system. The company has two production departments and two ancillary service departments. Production department A manufactures ground-beef burgers and production department B manufactures Jogiyat famous sauce. Service department 1 serves as a canteen for manufacturing staff and service department 2 consists of personnel and administrative staff.

As the management accountant of Jogiyat Burgers you have been asked to calculate an appropriate fixed overhead absorption rate. The fixed overhead analysis (as below) provides the total fixed overheads per month for each department and the usage of other departments' services.

Fixed overhead analysis sheet:

	Production Department A	Production Department B	Service Department 1	Service Department 2
Fixed overheads	R40 000	R70 000	R6 000	R10 000
Service Department 1	45%	45%	-	10%
Service Department 2	50%	20%	30%	-

Production Department A: Ground-Beef Burgers

For the take-away part of the business, ground-beef burgers sell for R25 a burger. Variable costs per ground-beef burger are as follows:

Roll	R1.80
Ground-beef patty	R4.40
Salads	R1.20
Miscellaneous (note 1)	R1.40
Jogiyat famous sauce	R3.00
Manufacturing overheads	R3.20

Non-manufacturing fixed expenses amount to R43 000 per month at present. The owner, Mr Jogiyat, is of the opinion that upgrading Jogiyat Burgers to a restaurant, in addition to a take-away business will justify a selling price of R30 per ground-beef burger.

As a result of the upgrading, non-manufacturing fixed expenses are expected to increase by R12 000 per month. It is envisaged that certain of the variable expenses will increase to the following per burger:

Miscellaneous	R1.60
Jogiyat famous sauce	R3.40

Mr Jogi has heard that organic chicken burgers are becoming increasingly popular amongst his competitors. He would therefore like to introduce chicken burgers to the Jogiyat Burgers' range. The chicken burgers would sell for R24. An expected sales mix of 2:1 is expected for ground-beef and chicken burgers respectively (based on current market trends), and fixed costs would decrease by 1% per month.

Note 1: Miscellaneous items include salt and pepper sachets, serviettes etc.

QUESTION 3 (Continued)

REQUIRED:		
(a)	Calculate the total overheads per production department after the reappportionment of service department costs. (Ignore the reciprocal charges between the ancillary service departments). Round all amounts to the nearest whole number .	(5)
<i>For calculations in parts (b) – (d), ignore the overhead calculations performed in part (a) above. Assume that Jogiyat Burgers only has one production department (named production department A) with Fixed Manufacturing cost of R51 000 and Fixed Non-manufacturing cost of R43 000.</i>		
(b)	Calculate the breakeven sales per month (in Rands only) for ground-beef burgers division only before and after the proposed upgrade.	(9)
(c)	Calculate the margin of safety (before the proposed upgrade) if Jogiyat Burgers only sells 5 000 ground-beef burgers and explain the effect of this ratio to management.	(4)
(d)	Calculate the breakeven sales per month (before the proposed upgrade) for both ground-beef and chicken burgers (in units only). Assume that chicken burgers incur variable costs of R12 per burger.	(5)
(e)	Describe the differences between the accountant's and the economist's model for CVP analysis.	(5)
(f)	Discuss the possible advantages of having a restaurant in addition to a take-way business for Jogiyat Burgers.	(2)
TOTAL MARKS		(30)

QUESTION 4**(35 MARKS)**

The Total Limited comprises diversified fuel, chemical and related manufacturing and marketing operations, complemented by interests in technology development and oil and gas exploration and production.

Total Limited is currently listed on two stock exchanges (JSE and NYSE), and is subject to the disclosure rules and obligations imposed by these exchanges and their regulators (e.g. the SEC in the USA).

As a listed company, Total communicates on an ongoing basis with stakeholders (e.g. banks, institutional and retail investors, analysts, equities sales people, fund managers, ratings agencies etc), to ensure that the stakeholders understand Total's strategy, operations, performance and future prospects.

Total's capital providers consist of both equity investors and lenders/debt providers (banks and Institutional investors lending to Total or investing in its issues of debt instruments such as local bonds, offshore bonds, commercial paper issues, project finance, loans and other credit facilities and convertible instruments).

Total's financial year runs from 1 July to 30 June. The group reports on financial performance twice annually for interim and annual results.

On 1 December 2019 Total approved an investment of R 8,4 billion which will double the Total Wax production of hard wax in South Africa. Total Wax would be a new division that would be started.

"This large investment shows Total's commitment to the wax business and enables us to grow with our customers in this market," says Frank Cilliers, managing director of Total Wax.

To finance the new wax production for an amount of **R8,4 billion**, Total Wax planned to issue the following instruments on 1 July 2020:

Shares

The share price of each Total Limited share was valued at R280. The risk profile of Total Wax is the similar to Total Limited. Total Limited planned to issue 15 million shares. In the previous financial year, Total declared a dividend of R11.50 per share. Total expects a stable average growth rate for the company of 7%. Maria Anastasia, a professor in the department of finance was researching market behaviour and discovered that when the average market return declined by 15% in the recession, Total shares only declined by 8%. Her research also showed that the average market risk premium that investors were looking for was 7% in the sector of Total Wax's operations.

Debentures

Total planned to issue 90 million debentures with a R24 par value. Each debenture was going to be issued at R25.20 per debenture. The terms of the debenture were as follows:

Redemption date: 30 June 2028

Redemption value: Premium of 8% to nominal value.

Coupon: 9% per annum.

Payment period: Semi-annually on 31 December and 30 June until redemption date.

QUESTION 4 (Continued)**Non-participating preference shares**

Total Wax management were also planning to issue 50 million non-participating preference shares with a par value of R32 per share as “they said that a preference share allowed for additional financing without giving away any more ownership or decision-making powers, however will incentivize shareholders to invest as they will receive any unpaid accumulated dividend plus capital in case of liquidation,” said Frank Cilliers. The expected dividend for the preference share was 12% of nominal value. Each preference share is going to be issued at a price of R36.96. These shares are not redeemable.

Bank overdraft

Total has a bank overdraft facility of R250 million. The current balance of the overdraft is R84 million. This balance has been maintained at this level for over ten years now and management said that they expect it will be maintained for the next ten years. Due to the size of Total, the Financial Director managed to negotiate an interest rate of prime plus 2 on the overdraft from the bank. The overdraft has been used in the financing of their assets.

Current liabilities

The current liabilities balance was R20 million from normal trading. This is expected to be settled before the year is over.

Additional information

- The current income tax rate is 28%.
- The current prime rate is 10.5%.
- The Government 10-year long bonds are currently trading with a yield of 8.7% and is the basis for all Total trading.
- Total regards the capital structure based on market values as their optimal capital structure.

REQUIRED:		
(a)	Calculate the Weighted Average Cost of Capital for Total Wax Division as at 1 July 2020.	(35)
TOTAL MARKS		(35)