UNIVERSITY OF JOHANNESBURG

DEPARTMENT OF ACCOUNTANCY

FINANCIAL MANAGEMENT 200

FMA200

LAST ASSESSMENT OPPORTUNITY – NOVEMBER 2015

ASSESSORS:	Ms E Kocks Ms M Strauss Mr T Madiba Ms M McKenzie
MODERATOR:	Mr DH Joubert
TIME:	3 HOURS
MARKS:	150

- THE ASSESSMENT OPPORTUNITY PAPER CONSISTS OF 4 QUESTIONS AND 13 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.

QUESTION 1 **(40 MARKS)**

PART A **(30 Marks)**

Tasteful Textiles (or the “company”) makes a single polyester fabric in two production processes. Polyester fabric includes naturally-occurring chemicals and synthetics. The woven fabric from polyester yarn is used by large apparel and home furnishing manufacturers in South Africa.

The company is considering its projected figures for the upcoming financial year, given that management is planning on expanding the company’s operations. In the application of a loan from the bank, management was informed that they need to apply IFRS to their financial statements. This costing method was not previously used by Tasteful Textiles, and management is interested in seeing the impact of this on their financial statements. As IFRS specialist, you have been requested by Management to prepare a memorandum on various issues, as set out below. In doing so, you have been provided with the following information.

As at 1 November 2014, the company had no opening stock (finished goods and work-in-progress). However, as at 31 October 2015, the company had finished goods closing stock valued at R7 200, which was inclusive of only variable production costs; and no work-in-progress closing stock. For the year ended 31 October 2015, the following fixed production overhead general ledger account was prepared by the cost accountant; in response to applying IFRS to the company’s financial statements.

Fixed production overheads

Various creditors	90 000	Work in progress	87 500
		Under applied	2 500
			90 000

The budgeted costs and selling price structure for the year ended 31 October 2016 is as follows:

	Rand per metre of polyester
Selling price	22.00
Direct materials	5.00
Direct labour	4.00
Production overhead	
- Variable	2.00
- Fixed	6.00
Variable selling overhead	0.50
Fixed administrative overhead	1.00

QUESTION 1 (Continued)

Additional information:

1. Activity levels for the year ended 31 October 2015 (actual) and 31 October 2016 (budgeted) is set below:

	31 October 2015 Metres of polyester:	**31 October 2016 Metres of polyester:**
Sales	16 800	17 000
Production	17 500	18 000

2. Fixed overhead costs per metre of polyester are based on a normal annual activity level of 19 000 metres. These costs are expected to be incurred at a constant rate throughout the year.
3. The company uses the weighted average cost valuation method for all inventory accounts.

REQUIRED:

a) Compile a report to management of Tasteful Textiles where you prepare or address the following:

(1) A budgeted statement of comprehensive income for the year ended 31 October 2016, based on the absorption costing method. **(14)**

(2) A budgeted statement of comprehensive income for the year ended 31 October 2016, based on the direct costing method. **(7)**

(3) Reconcile the net profit calculated in (1) to the net profit calculated in (2), and explain to management why these two profit figures differ. **(6)**

Round all figures to the nearest whole number for (a).

b) One of the advantages of absorption costing is that this costing method avoids fictitious losses being reported. Explain to management why this occurs. **(3)**

QUESTION 1 (Continued)

PART B **(10 Marks)**

In the production of polyester fabric, Tasteful Textiles makes use of two processes. As management accountant, you have been requested to calculate the value of finished goods for the month ended 30 September 2015. You have been provided with the following information related to Process 2 for the month ended 30 September 2015:

Opening work-in-progress (OWIP) costs:	**R**
Process 1	420
Material	550
Conversion costs	1 600

Costs incurred during September 2015:	**R**
Transferred from the previous process	5 470
Material	4 100
Conversion costs	12 006

Metres of polyester fabric for Process 2 (September 2015):	
OWIP (80% complete)	50 metres
Transferred in from the previous process	1 500 metres
Finished goods	1 200 metres
Closing WIP (35% complete)	120 metres

Additional information for Process 2:

- Material is issued at the 20% mark of the production process.
- Conversion costs are incurred evenly during the process.
- Normal wastage is estimated at 10% of input and takes place when production is 40% complete. Polyester fabric that is wasted has a saleable value of R1.20 per metre.
- Abnormal loss units do not share in the normal loss allocation.
- The company uses the weighted average stock valuation method.

REQUIRED:

Calculate the value of finished goods for the month ended 30 September 2015**.** **(10)**

Round to the nearest two decimal places

QUESTION 2 **(40 MARKS)**

Brown Limited is a newly formed crude oil refining company. The company has two main divisions: the crude oil division and the retail division (selling mainly petrol) which are both based in Mossel Bay. The company operates state of the art technology and is the key supplier of oil products to businesses in South Africa.

Crude Oil Division

This division produces the following 3 products: petrol, diesel and jet fuel. Incidental to the refining of crude oil is the production of sulphur, a by-product which is mainly used to produce sulphuric acid.

50 000 litres of crude oil were processed during January 2015 in the Crude Oil division. The litres of crude oil undergo different processes (distillation, hydro-processing, reforming and catalytic cracking) before the joint products and the by-product become recognisable.

Distillation

The first stage of refining the crude oil is distillation. In this process, the crude oil, which is a mixture of many types of hydrocarbons, is boiled and re-condensed to separate the crude oil into components based on ranges of boiling points.

Components which are heavier are harder to boil and will collect in the lower part of the column. Lighter components are easier to boil and will be collected in the upper part of the column.

Very heavy components which are unable to boil will leave from the bottom of the column, in a stream known as residue, while very light components will leave from the top of the column.

Distillation costs for the current month amounted to R10 for each litre of crude oil that was processed.

Hydro processing

To meet environmental specifications and to assist in further processing, components undergo a process known as hydro processing. The objective of this process is to remove sulphur from the component stream. This process will consume hydrogen to assist in the removal of sulphur. The sulphur removed from this process is converted into pure liquid sulphur and is sold to the local industry for the production of acid and fertiliser. (Refer to by-product information later.)

At a production level of 90 000 litres, hydro processing costs amount to R145 000. At a production level of 50 000 litres, hydro processing costs amount to R125 000.

Reforming

This process converts a low value component called 'naphtha' into a product known as reformate. This reformate has a much higher octane number and is used for gasoline blending.

This is achieved using a catalyst that contains platinum. The total cost of the platinum for January is 24 000USD. The current exchange rate us R12.5 per USD.

QUESTION 2 (Continued)

Catalytic Cracking
This conversion process involves the breaking up of large hydrocarbon molecules into smaller molecules using a combination of heat and catalytic action. Thereafter the hydro carbon molecules are converted to a number of more valuable fuel components.

The average total costs of catalytic cracking amounted to R50 000 per month in the previous financial period. The costs are expected to increase by 50% in 2015 due to the increase in electricity costs resulting from Eskom rate hikes, inflation and other economic factors.

The total labour costs involved in the production process amount to R430 000 for a month. All machinery in the company was bought 2 years ago at a total cost of R12 000 000. It has a total useful life of 20 years.

Note all costs incurred from distillation to cracking form part of the total production costs in the refining of crude oil. It is not possible to assign any individual costs to petrol, diesel or jet fuel before the completion of the catalytic cracking phase as the products only become recognisable after this stage. It is then sold as three individual products.

By-product information for January
During the month R115 000 in further processing costs was incurred to convert the liquid sulphur before selling it to the local industry for R395 000.

Brown Limited reduces their joint cost with the by-product income.

[Source: http://www.shell.com/src/about-src/refining-process.html]

Board's Concerns
The company CEO Mr Henry Nhlapho discussed with the CFO Ms Thandeka Mtshali and board Chairman Mr David Brown that he fears that the jet fuel division is struggling to generate a profit. Currently production overheads incurred up until the end of the Catalytic cracking process are allocated to all the joint products based on the physical measures method.

The board chairman then suggested that perhaps production overhead costs should be allocated based on the sales value method.

There was no opening or closing stock during the current financial month.

Output and sales values for the month:

	Petrol	**Diesel**	**Jet Fuel**
Total Litres produced	16 667	8 333	25 000
Selling price per litre	R35	R30	1.68 USD

Round off all answers to the nearest percentage.

QUESTION 2 (Continued)

REQUIRED:

a) Calculate the total joint production costs for the month ended 31 January 2015. **(10)**

b) Based on the **current method of allocating joint costs**, calculate the following:
   (i) the total allocated joint production cost for **each** of the main products;
   (ii) the gross profit for each product. **(12)**

c) Based on the **sales value** method, calculate the following:
   (i) the total allocated joint production cost for **each** of the main products;
   (ii) the gross profit for each product. **(6)**

d) Briefly explain whether you agree that jet fuel is really generating a loss and why this is the case. Should Brown Ltd stop producing jet fuel if a loss is made? **(3)**

e) Name and briefly explain what the other two methods of allocating joint costs are. **(4)**

f) Explain what is meant by the term “split off point”. **(2)**

g) Explain the difference between a joint product and a by-product. **(3)**

QUESTION 3 **(30 MARKS)**

Two friends, Mahesh and Michael, recently got into a heated debate regarding the amount they pay for a haircut. Mahesh insisted that he paid R30 and any price higher should not even be considered. Michael thought this was a ridiculously low amount and insisted the barber must not be reputable. Soon afterwards he reluctantly admitted to paying on average R100 for a haircut. This took Mahesh by shock as he could not see the extra value Michael was getting from his haircut.

Both friends decided their solution to the debate would be to gather cost information from their respective barbers and compare their findings. Presented below are the results of their investigation:

Mahesh's Barber:

Mahesh goes to the Goodluck Barbershop. The barbershop is run by 2 barbers who split all profits equally. After an interview with one of the owners Mahesh discovered the following information based on an average of 760 haircuts per month:

- The rent expense amounts to R5 000 per month. The size of the barbershop is 15 m^2, situated in Robertsham, a residential area, on a street with various shops. There are approximately 5 other Barbershops within a 2km radius and customers generally opt for the most affordable barber.

- Other paid expenses, excluding water and electricity, amount to R2 000 a month. The owners do not keep an expense record and were unable to provide a detailed analysis of the expense. Mahesh, however, managed to deduce the breakdown of the monthly cost into two categories:
  - ⇒ Cleaning cost (detergents and cleaning cloths) of R200. - The barbershop is swept after every haircut by the barber. The barbershop is however cleaned completely at the end of every day, irrespective of the number of haircuts that occurred during the day.
  - ⇒ The rest of the other paid expenses are for blades, gel and powder used during the haircuts.

- Water and electricity for the barbershop amounts to R1 500 per month. The water and electricity usage generally varies with each haircut with the exception of 20% of the cost which is attributable to keeping the lights on throughout the day.

- The barbershop owns 2 Barber chairs (cost price of R5 000 each) with an expected useful life of 7 years. The shavers and other equipment (scissors, comb, towel, cape, razors, broom etc.) cost R 9 000 and have an expected useful life of 5 years. The furniture in the barbershop has been there since inception and is fully depreciated.

QUESTION 3 (Continued)

Michael's Barber:
Michael goes to the Scissors Hair Salon. The hair salon is a franchise run by one owner who employs 7 barbers and a receptionist. The owner is not actively involved in the salon. After a telephone interview with the owner, Michael determined the following based on an average number of haircuts of 3 000 in a month:

- The Scissors Hair Salon is a unisex salon.

- The rent expense amounts to R20 000 per month. The size of the salon is 78m^2, situated in Norwood, in a shopping mall with approximately 3 other salons in a 2km radius. The salons all charge approximately the same amount due to the affluent clientele they cater for.

- The barbers and the receptionist are all paid a fixed monthly salary of R13 000 each.

- Franchise fees are required to be paid by Scissors Hair Salon. The fee comprises of a fixed base fee per month as well as a fee for each haircut. When 2 000 haircuts are performed the franchise fee amounts to R35 000. When 200 more haircuts are performed the fee amounts to R36 000.

- Other paid expenses amount to R4 per haircut. This comprises of the costs of blades, gel, powder, face cream, shampoo and cleaning supplies (e.g. detergent) which are used for each haircut. The tools and the area used by the barber are sanitised after every haircut.

- Michael determined from his friend Nicole that she paid approximately R800 for her haircut at the Scissors Hair Salon. The costs relating to a haircut for a woman is the same as for a man with the exception of the following:
  - ⇒ Women get their hair massaged with a special conditioner for extra gloss during a haircut. This costs approximately R125 per haircut.
  - ⇒ Women also get their hair treated at each haircut to prevent hair loss. This amounts to R40 per haircut.
  - ⇒ The cost of additional styling products used in the woman's haircut amounts to R10 per haircut.

- Water and electricity for the salon amounts to R4 000 per month. The water and electricity usage generally varies with each haircut with the exception of 25% of the cost which is attributable to keeping the lights on throughout the day.

- The salon owns 7 Barber chairs (cost price of R5 000 each) and furniture (cost price R80 000) with an expected useful life of 7 years. The shavers and other equipment (scissors, comb, towel, cape, razors, broom, straightener for woman etc.) costing R110 000 have an expected useful life of 5 years.

On average 2 188 women and 1 312 men visit Scissors Hair Salon for a haircut per month.

QUESTION 3 (Continued)

The two friends did not know how to interpret their findings and asked for assistance from Sethu Tshabalala, a well-known Chartered Accountant, to determine how best to analyse their results. She recommended they perform a break-even analysis to further understand the cost structure. She also commented that a graphical approach to the data analysis might enhance their understanding of the impact of cost-volume-profit relationships.

REQUIRED:

a) Calculate the number of haircuts the Goodluck Barbershop would have to perform in ***a month*** in order to breakeven. **(6)**

b) Calculate the number of haircuts the Scissors Hair Salon would have to perform in ***a month***, clearly distinguishing between the number of men's and woman's haircuts which would need to be performed to breakeven. **(14)**

c) Discuss the possible reasons as to why the above answers in (a) and (b) differ. **(5)**

d) Describe and distinguish between the three different approaches to presenting cost-volume-profit relationships in graphical format. **(5)**

QUESTION 4 **(40 MARKS)**

Pick n Pays was established in 1965 by Jack Gold in Cape Town, South Africa, and is currently the second largest supermarket chain store in South Africa. Pick n Pays operates in 6 Southern African countries.

For the past 5 years the company's core focus has been to strengthen its strong South African retail businesses under the Pick n Pays brand, while adopting a systematic approach to expanding into adjacent areas, including geographical growth through the African continent.

As a major retailer in Africa, the Group strives to address socio-economic challenges through the supply of high-quality, affordable food for all customers, while providing significant employment and economic opportunities across its value chain. The growth and success of Pick n Pays is attributable to 3 basic principles, which form the cornerstone of the business: Consumer sovereignty; Doing good is good business; and maximising business efficiency.

Pick n Pays' main supplier is MJG Ltd. MJG is listed on the Johannesburg Stock Exchange in the Food Products sector. MJG's extensive brand portfolio includes more than 53 brands; 33 owned brands and over 20 international brands under license. Single-mindedly focussed on their growth and development, their brands span a range of hot and cold beverages, sweet and savoury snacks, fresh and convenience foods, out of home ranges, cosmetics, shoes and accessories, and apparel.

Presented below are the extracts of statements of financial position and the statements of comprehensive income for both Pick n Pays and MJG for the most recent audited financial year:

QUESTION 4 (Continued)

	MJG	**Pick n Pays**
	R'000	R'000
ASSETS		
Non-current assets	**3 912 000**	**5 278 000**
Property, Plant and Equipment	2 317 000	4 139 000
Intangible Assets	1 146 000	531 000
Investment Property	57 000	128 000
Long term Financial Assets	392 000	480 000
Current assets	**3 189 000**	**8 495 000**
Inventories	1 314 000	3 979 000
Derivative financial instruments	98 000	135 000
Trade and other receivables	1 478 000	*2 841 000
Cash and cash equivalents	299 000	1 540 000
Total assets	**7 101 000**	**13 773 000**
EQUITY AND LIABILITIES		
Share Capital	17 000	6 000
Share Premium	13 000	5 000
Reserves	367 000	89 000
Retained Earnings	4 100 000	2 630 000
Total equity	**4 497 000**	**2 730 000**
Non-current liabilities	394 000	1 658 000
Employee benefits	220 000	246 000
Other long-term liabilities	15 000	1 400 000
Deferred taxation	159 000	12 000
Current liabilities	**2 210 000**	**9 385 000**
Current borrowings	640 000	1 300 000
Trade and other payables	1 570 000	8 085 000
Total equity and liabilities	7 101 000	13 773 000

Pick n Pays' debtors consist of fees payable from franchises.

	MJG	**Pick n Pays**
	R'000	R'000
Revenue	10 267 000	63 661 000
Cost of Sales	5 839 000	52 077 000
Gross Profit	**4 428 000**	**11 584 000**

MJG has recently been investigating possible means to raise funds internally to purchase a new portfolio of international brands to expand their global market share. This purchase will take place in 3 years from today, with an expected cost of R800 million. All current and future cash flows generated are required for the operation of the business. Options available to the business in order to raise the R800 million are detailed below:

QUESTION 4 (Continued)

Option 1: Change in credit policy
MJG's sells its entire inventory on credit as this is the industry norm. MJG's current credit policy is 3/30 net 50. Under the current credit policy approximately 10% of clients are expected to utilise the discount offered. Bad debts are expected to amount to 4% of clients who do not take the discount.

The proposed new policy is 5/10 net 40. Due to the stricter proposed credit policy the following changes are expected: only 8% of clients are expected to utilise the larger discount offered, bad debts is expected to increase to 5% of clients who do not take the discount. The debtor's collection period is expected to decline to 45 days. Sales will increase by 10% under the new policy due to the attractiveness of the discount offered. The gross profit margin will remain the same on the new policy.
The opportunity cost is approximately 12%.

Option 2: Factoring the Trade Receivables
MJG was recently approached by Brand Trust for the opportunity to sell their trade receivables. This would be a once off transaction taking place immediately. The terms of the sale are as follows:

- Brand Trust would retain 7% of the Trade receivables and advance the remainder immediately to MJG.
- Brand Trust charges a service fee of 1% of current sales payable at the end of the year
- There is interest payable of 9% per annum based on the advance amount payable at the end of the year.
- Subsequent to the purchase all new debtors' balances would once again be the responsibility of MJG.

REQUIRED:

a) Calculate the following ratios for Pick n Pays and MJG:
   (i) Trade Receivable days
   (ii) Trade Payable days
   (iii) Inventory days
   (iv) Current ratio

   Thereafter calculate the cash conversion cycle for both Pick n Pays and MJG and comment on the differences in your answers between the two companies. **(11)**

b) Calculate the effect on profit of MJG Ltd if the change in credit policy were to take place. (Assume for this part of the required that under the current policy the debtor's collection period is 53 days and time value of money is ignored.) **(13)**

c) Calculate the effective cost of the possible factoring of trade receivables to Brand Trust and discuss the advantages of such factoring for MJG Ltd. (Assume for this part of the required that time value of money is ignored.) **(10)**

d) Assuming that MJG can choose to either change their credit policy OR factor their trade receivables, calculate whether they will have sufficient funds three years from today to purchase the portfolio of international brands
   (An applicable discount rate is 9%) **(6)**

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