UNIVERSITY OF JOHANNESBURG

Department of Commercial Accounting

Cost and Financial Management 3B

CFM33B3 & CFM3BB3 & MAA3-2

LAST ASSESSMENT OPPORTUNITY
Date: 26 November 2016

Time: 180 minutes **Marks: 100**

Assessors: M Mouton, L Joubert and M van Rensburg
Internal moderator: M Vermaak
External moderator: HJ Dixon (TUT)

INSTRUCTIONS:

- This paper consists of 12 pages (including the cover page).
- Answer all questions. **Show all calculations and workings clearly**.
- Start each question on a new page.
- Silent, non-programmable calculators may be used.
- Where applicable, round all calculations to two decimal places, unless stipulated otherwise.
- **Clearly indicate the group that you attend as well as the class list number (next to your name on the attendance register) next to the UJ logo on your script.**

Question	Topic	Marks	Time
1	CVP and Special Order	24	43 minutes
2	Limiting Factors	20	36 minutes
3	Discounted Payback Method	10	18 minutes
4	NPV	31	56 minutes
5	Multiple Choice (all topics)	15	27 minutes
		100	**180 minutes**

Question 1 {24}

Part A

One of your friends recently started a craft brewery, Sihle's African Brewery (hereafter referred to as SAB). SAB currently has a maximum brewing capacity of 200 litres of beer (or 400 bottles of beer) per week, split between a range of two beers:

	African Pale Ale	**American Pale Ale**
Materials cost per kg	R20	R24
Materials required per litre	0.2 kg	0.25 kg
Labour hours per litre	0.25 hrs	0.35 hrs
Cost per labour hour	R40	R40
Machine hours per litre	3 hrs	2 hrs
Variable overheads per machine hour	R2	R2
Variable administration costs (per bottle)	R2	R1
500ml bottles sold per week	120	150
Selling price per 500ml bottle	R26	R25

SAB's total weekly fixed costs amount to R5 000, of which 22% can be traced to non-manufacturing activities.

Required:

1.1 Calculate the current weekly break-even point for SAB in number of 500ml bottles, assuming that the bottles of beer are sold in the same ratio as the weekly sales. Comment on your answer. **(12)**

Part B

The department of Commercial Accounting at the University of Johannesburg is planning a year-end party and would like to place a special order for 150 500ml bottles of African Pale Ale from SAB. The university's requirements are:

- the beer must be alcohol-free (Sihle has investigated and found that this would increase the variable cost by R0.20 per bottle in the special order);
- the bottles need a special label which will cost R0.30 per bottle;
- the 150 bottles must be delivered at once. Due to the fact that Sihle doesn't add any preservatives, the beer cannot be made in advance. If capacity is needed for the special order, Sihle will sacrifice normal production of his **least** profitable beer;
- the University can pay SAB R21 per bottle.

Required:

1.2 Advise Sihle firstly how much spare capacity he has available, and secondly, whether he should accept the special order from the University. Mention financial and non-financial factors in your answer. **(12)**

Question 2 **{20}**

Afri-beds (Pty) Ltd is a manufacturer of authentic African bedding and currently manufactures three products namely: quilts, blankets and cushions. The ethnic material gives the company their competitive edge. Two different types of imported ethnic material, referred to as material A and material B, are used to produce the three products. The following budget has been prepared on a per unit basis:

	Quilts	**Blankets**	**Cushions**
Sales price	R850	R450	R180
Product cost:			
Ethnic material A (R180 per metre)	R300	R240	R45
Ethnic material B (R150 per metre)	R180	R75	R40
Labour (R25 per hour)	R85	R50	R60
Overheads (50% variable)	R60	R40	R10
Demand per month (units)	90	180	200

Ethnic material A is limited to 280 metres per month and ethnic material B is limited to 180 metres per month. There are currently 7 labourers who are responsible for the production of the products. The labourers are skilled (specialised stitching and embroidery) and it will not be possible to train additional labourers over the short-term. The labourers work 8 hours per day. Assume 22 working days per month.

Required:

2.1 Advise management on the optimal product mix given the current available information that represent normal production. **(20)**

Question 3 {10}

Bono Ltd is considering two mutually exclusive projects, each with an initial investment of R150 000. The company's board of directors has set a 4-year payback requirement and has set its cost of capital at 9%.

The **cash inflows** associated with Project A are as follows:

Cash flow per year	
Year	**Project A**
1	R65 000
2	R65 000
3	R65 000
4	R65 000
5	R65 000

The **payback period** of Project B has been calculated as 4 years.

Required:

3.1 Determine which project should be accepted using the discounted payback method. **(10)**

Question 4 **{31}**

RED bank is considering moving to a new software package in order to improve their processing time of personal home loans. The current package is reflected in the books of RED bank at R500 000 (with R0 salvage value) and maintenance costs of R40 000 per year is payable for another 2 years before the license agreement expires. The new package will initially cost R1 800 000 and gives RED bank the right of use for 5 years. The new package will be written off over the 5-year period. Research conducted at a cost of R157 000 indicated that the new package will result in additional clients being obtained due to improved service delivery. This additional clients base will have the following effect on cash inflows:

Year 1	R400 000
Year 2	R470 000
Year 3	R490 000
Year 4	R380 000
Year 5	R370 000

The new package will incur maintenance costs of R79 000 per year for the first four years, the fifth year will incur no maintenance costs. It is estimated that 2 additional skilled staff members need to be employed for 5 years at a cost to company of R150 000 per employee per year to help with the implementation and running of the new software package. The new software package will result in 4 staff members being retrenched. They will each receive a retrenchment package worth R80 000, payable at the beginning of year 1. Annual savings in administration cost will be R720 000 per annum for the five years.

At the end of year 5 (license expiry date) RED bank will receive a 10% discount on the renewal price if they renew the same package. RED bank doesn’t know at this stage if they will renew the license agreement.

Net income lost from computer illiterate clients due to the acceptance of the new package will be as follows:

Year 1	R79 000
Year 2	R81 000
Year 3	R84 000
Year 4	R87 000
Year 5	R89 000

It was determined that the required return on sources of finance for RED bank is 18%. Tax is applicable at 28% and is paid at the end of the year it incurred.

Required:

4.1 Using **NPV,** advise RED bank on whether they should invest in this project (or not). Please complete the tax calculation as well. **(31)**

Question 5 **{15}**

Choose the correct option (letter) and write it next to the question number in your script. Show all calculations where applicable.

The following information relates to questions 5.1 and 5.2:

Gardner Furniture produces two kinds of chairs: an oak model and a chestnut wood model. The oak model sells for R60 and the chestnut wood model sells for R100. The variable expenses are as follows:

	Oak	**Chestnut**
Variable production cost per unit	R30	R35
Variable selling & admin per unit	R6	R5

Expected sales for next year are: 5 000 oak chairs and 1 000 chestnut chairs. Fixed expenses are budgeted at R135 000 per year.

5.1 The annual break-even point in total sales for the expected sales mix is: **(4)**

a. R270 000
b. R300 000
c. R485 000
d. R500 000

5.2 The company's overall contribution margin ratio for the expected sales mix is: **(3)**

a. 40%
b. 45%
c. 50%
d. 60%

5.3 When there is a production constraint, a company should emphasise the products with: **(1)**

a. The highest unit contribution margins.
b. The highest unit contribution margin ratios.
c. The highest unit contribution margin per unit of the constrained resource.

d. The highest unit contribution margins and contribution margin ratios.

5.4 Under the internal rate of return capital budgeting technique, it is assumed that cash flows are reinvested at the: **(1)**

a. Company's cost of capital.

b. Hurdle rate of return.

c. Internal rate of return.

d. Discount rate.

5.5 If investment A has a payback period of 3 years and investment B has a payback period of 4 years, then: **(1)**

a. A is more profitable than B.

b. A is less profitable than B.

c. A and B are equally profitable.

d. The relative profitability of A and B cannot be determined using only the payback periods.

5.6 An important qualitative factor to consider regarding a special order is the **(1)**

a. Variable costs associated with the special order.

b. Avoidable fixed costs associated with the special order.

c. Effect the sale of special order units will have on the sale of regularly priced units.

d. Incremental revenue from the special order.

5.7 Which item is not an example of a sunk cost? **(1)**

a. Materials needed for production.

b. Purchase cost of machinery.

c. Depreciation.

d. All are sunk costs.

5.8 A purchasing agent has two potential suppliers from which to buy materials for production. If both suppliers charge the same price, the material cost is a(n) **(1)**

a. Irrelevant cost.

b. Relevant cost.

c. Sunk cost.

d. Opportunity cost.

5.9 Which of the following methods uses income instead of cash flows? **(1)**

a. Payback.

b. Accounting rate of return.

c. Internal rate of return.

d. Net present value.

5.10 Future cash flows expressed in present value terms are **(1)**

a. Compounded cash flows.

b. Extended cash flows.

c. Budgeted cash flows.

d. Discounted cash flows.

Total marks [100]