

Department of Finance and Investment Management Financial Management 3A

BSR3A01

LAST ASSESSMENT OPPORTUNITY 30 MAY 2016

Time: 180 minutes + 20 minutes reading time

Assessors: Ms M McGill Mr S Modiba Moderators: Ms J Jordaan-Marais Ms R van Gaalen

INSTRUCTIONS:

- This question paper consists of **18 pages**. Please ensure that you have all pages.
- You are allowed 180 minutes to answer this question paper.
- You are allowed 20 minutes reading time before the assessment begins during which you may 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.
- ALL answers must be written on the answer sheets provided. Answers or notes written on the question paper will **not** be submitted for marking.
- Silent, non-programmable calculators may be used, unless otherwise instructed.
- Where applicable, show all calculations clearly.
- Answers with Tippex or in pencil will **not** be marked.
- Hand in ALL answer books.

• NO CANDIDATE IS PERMITTED TO LEAVE THE EXAMINATION HALL IN THE LAST FIFTEEN MINUTES OF THE ASSESSMENT OPPORTUNITY PERIOD.

Section	Marks	Time
Reading time		20 minutes
А	50	60 minutes
В	25	30 minutes
С	75	90 minutes
	150	200 minutes

Marks: 150

SECTION A

QUESTION 1

REQUIRED:

Select the correct option by WRITING the corresponding letter in the answer book provided.

Question 1.1

Porterhouse Company has both fixed and variable production costs. If volume goes up by 20%, how would that affect the total fixed costs? (Assume all volumes are within the relevant range.)

- A Would go up by 20%.
- B Would remain the same.
- C Would go up by less than 20%.
- D Would go down.

The following information should be used to answer Question 1.2 – 1.3 below:

Pat's Hats produces sun visors. The following information relates to the production for the month of October: (Fixed manufacturing overhead cost and units produced were as estimated)

	October
Direct materials cost per unit	R0.75
Direct labour cost per unit	R1.50
Variable manufacturing overhead cost per	
unit	R0.25
Total fixed manufacturing overhead costs	R10 000
Total fixed selling and administrative costs	R40 000
Number of units produced	20 000
Number of units sold	19 600
Sales price per unit	R10

Question 1.2

What is the value of the October ending inventory using absorption costing?

- A R1 200
- B R1 000
- C R3 000
- D R2 000

[25 marks]

(25 marks)

What is the October net income using absorption costing?

Α	R97	000
D	D07	200

В	K97	200
<u> </u>	D 1 2	7 20

C R137 200

D R137 000

Question 1.4

A budget prepared for different levels of activity is called a:

- A rolling budget.
- B static budget.
- C flexible budget.
- D operating budget.

Question 1.5

An example of a favourable variance is when:

- A actual material prices are greater than expected material prices.
- B actual expenses are less than expected expenses.
- C expected labour costs are less than actual labour costs.
- D actual revenues are less than expected revenues.

The following information should be used to answer Question 1.6 - 1.7 below:

Telcom Ltd has the following information available:

Budgeted cost of direct materials at 900 000 units	R900 000
Budgeted cost of direct materials at 820 000 units	R820 000
Actual cost of direct materials at 820 000 units	R840 000
Actual level of output (units)	820 000
Planned level of output (units)	900 000

The cost driver of product costs is units of output.

Question 1.6

What is the static budget variance for direct material costs?

- A R60 000 favourable.
- B R60 000 unfavourable.
- C R20 000 favourable.
- D R20 000 unfavourable.

(2)

(1)

What is the flexible budget variance for direct material costs?

- A R60 000 favourable
- B R60 000 unfavourable
- C R20 000 favourable
- D R20 000 unfavourable

Question 1.8

Which of the following statements is **FALSE**?

- A Flexible budgets are matched to actual levels of activity.
- B Flexible budgets are based on different assumptions about cost behaviour than those used for static budgets.
- C Flexible budgets facilitate management by exception.
- D Flexible budgets are prepared for a range of activity.

Question 1.9

The Doodly Company currently produces sandals in an automated process. Expected production per month is 20 000 units. The required direct materials cost is R1.50 per unit. Budgeted fixed overhead costs are R30 000 per month. The cost driver is units of production. What is the expected manufacturing cost of 15 000 units for one month?

Α	R52 500

В	R88	000
-		

- C R45 000
- D R22 500

Question 1.10

Blue Company had the following information available:

Expected Costs and Selling Price Based on 5	<u>,000 units:</u>
Variable manufacturing costs per unit	R32
Fixed manufacturing costs per unit	R20
Selling price per unit	R70
Expected production level	5 000 units

In the flexible budget at 10 000 units, what is the total manufacturing cost?

Α	R250 000
В	R700 000
С	R520 000
D	R420 000

(2)

(1)

Which of the following statement best explains a risk-averter?

- A A risk-averter would select the less risky alternative.
- B A risk-averter would ignore risk when selecting between alternatives.
- C A risk-averter would prefer the riskier alternative when given a choice between more or less risky alternatives with identical expected values.
- D A risk-averter would select any alternative with a positive expected value.

The following information should be used to answer Question 1.12 – 1.14 below:

Tile top is trying to market and sell a new product. You are provided with the following information relating to the product:

Economic condition	Probability	Profit
1	0.3	R8 000
2	0.25	R10 000
3	0.25	R13 000
4	0.2	R16 000

Standard deviation=R3 564

Assume a normal distribution is applicable to the profit distribution.

Question 1.12

What is the expected value for the probability distribution?

А	R10 000
В	R11 350
С	R13 000
D	R16 000

(2)

Question 1.13

What is the z-score if profit is R15 500?

- A 4.35
- B 2
- C 1
- D 1.16

(1)

What is the probability that profit will be above R15 500?

Α	37.7%
A	37.7%

B 83.7%

- C 12.3%
- D 62.3%

Question 1.15

Which ONE of the following statements is correct regarding mutually exclusive events?

- A Refers to events which occur simultaneously.
- B Refers to events which cannot occur simultaneously.
- C The occurrence of one event will not influence the probability of the occurrence of a second event.
- D The probability of one event is dependent on the occurrence of another event. (1)

Question 1.16

Subjective probabilities are probabilities where:

- A the outcome of an event is not influenced to any extent by a previous occurrence.
- B the establishment of probabilities are not based on individual judgement that may vary from person to person.
- C the establishment of probabilities are based on individual judgement that may vary from person to person.
- D none of the above.

Question 1.17

Which of the following statements best explains maximin decision?

- A Minimise profits during the best economic conditions.
- B Maximise profits during the best economic conditions.
- C Maximise opportunity loss during worst economic conditions.
- D Maximise profits during worst economic conditions.

Question 1.18

The break-even point is

- A the volume of activity where all fixed costs are covered.
- B where fixed costs equal total variable costs.
- C where total revenues equal total costs.
- D where total costs equal total contribution margin.

(2)

(1)

The income statement for Thomas Manufacturing Company is as follows:

Sales (10 000 units)	R120 000
Variable expenses	R72 000
Contribution margin	R48 000
Fixed expenses	R36 000
Operating income	R12 000

If sales increase by R60 000, what will happen to profit?

- A Increase by R60 000.
- B Increase by R24 000.
- C Increase by R6 000.
- D Increase by R36 000.

Question 1.20

Using cost-volume-profit analysis, we conclude that a 20% reduction in variable cost will

- A reduce the break-even sales volume by 20%.
- B reduce total cost by 20%.
- C reduce the slope of the total cost line by 20%.
- D not affect the break-even sales volume if there is an offsetting 20% increase in fixed cost. (1)

Question 1.21

Assuming all other things are equal, fixed cost must have ______ if there was a decrease in break-even point.

- A remained the same.
- B increased first, then decreased.
- C increased.
- D decreased.

Question 1.22

Which ONE of the following costs is NOT relevant to a special-order decision?

- A the direct labour costs to manufacture the special-order units.
- B the variable manufacturing overhead incurred to manufacture the special-order units.
- C the portion of the cost of leasing the factory that is allocated to the special order.
- D All of the above costs are relevant.

(1)

(1)

The following information should be used to answer Question 1.23 – 1.24 below:

Anderson Company manufactures 2 different products: A and B. The company has 100kgs of raw materials and 300 direct labour hours available for production.

The time requirements and contribution margins per unit are as follows:

	Α	В
Raw material per unit	1kg	2kg
Direct labour hours per unit	4	2
Contribution margin per unit	R4	R5

Question 1.23

What is the objective function for Anderson Company?

A	Minimize	4A +	- 5B
---	----------	------	------

- B Maximize 4A + 5B
- C Maximize 1A + 2B
- D Maximize 4A + 2B

Question 1.24

What is the equation for the constraint of raw materials?

A	1A +	2B <	100
D	4 A 1	2D /	100

U			20		100
С	4A	+	5B	<	100

D 4A + 5B < 300

Question 1.25

Equivalent units of production are

- A complete units that could have been produced given the total amount of manufacturing effort expended for the period under consideration.
- B the average number of units produced in a given period.
- C continuously measured in a total quality environment.
- D computed in both job-order and process cost systems.

(1)

(2)

In a process used by Kane Company, conversion cost is incurred uniformly throughout the process. Material is added at the end of the process. Which of the following statements is true?

- А Kane Company cannot use process costing and must use job-order costing.
- В Kane Company must calculate the unit cost of materials and the unit conversion cost separately.
- С Kane Company will report the cost of materials with the cost of the ending inventory.
- D Kane Company uses parallel processing.

Question 1.27

The Flanders Ltd. produces a product that passes through two processes. During June, the first department transferred 15,000 units to the second department. Materials are added uniformly in the second process. The following information was provided about the second department's operations during June:

Units, beginning work in progress	5 000
Units, ending work in progress	7 000

The Flanders Ltd's units started in the second department during April would be

А 20 000.

- В 15 000.
- С 10 000.
- D 8 000.

Question 1.28

Beginning inventory for the month contained 2,000 units that were 70 per cent complete with respect to n con equ

Α	62 400.
В	63 000
~	

- С 60 600.
- D 60 000.

Question 1.29

Baker Enterprises developed a cost function for manufacturing overhead costs of $Y = 8\ 000 + 1.60X$. Estimated manufacturing overhead costs at 10 000 units of production are?

Α	R16 000.
В	R17 600.
С	R24 000.
Р	D26 000

R26 000. υ

naterials. During the month, 60,000 units were completed and transferred out. Ending inventory
tained 3,000 units, 20 per cent complete with respect to materials. The weighted average
ivalent units of production for materials for the month would be
62,400

(1)

(2)

(2)

English Limited analysed the relationship between total factory overhead and changes in direct labour hours. It found the following:

 $Y = 6\ 000 + 6X$

The Y in the equation is an estimate of

- A total variable cost.
- B total direct labour hours.
- C total factory overheads.
- D total fixed cost.

(1)

(1)

Question 1.31

If production volume increases from 8 000 to 10 000 units

- A total cost will increase by 20%.
- B total cost will increase by 25%.
- C total variable cost will increase by 25%.
- D mixed and variable costs will increase by 25%.

Question 1.32

Life-cycle cost management is particularly important for firms that have

- A short life cycles because those firms have less opportunity to take advantage of the time value of money.
- B long life cycles because those firms have more opportunity to take advantage of the time value of money.
- C long life cycles because those firms have more opportunity to enhance profit performance through product redesign or cost reduction
- D short life cycles because those firms have less opportunity to enhance profit performance through product redesign or cost reduction. (1)

Question 1.33

A target cost is

- A the standard cost.
- B the difference between the sales price needed to capture a predetermined market share and the desired per-unit profit.
- C the long-run average cost over the life cycle of the product
- D none of the above.

Costs incurred because products or services fail to meet requirements after delivery to customers are called

- A external failure cost.
- B internal failure cost.
- C appraisal cost
- D prevention cost.

(1)

(1)

Question 1.35

Benchmarking

- A is an approach to standard setting that is used to identify opportunities for activity improvement.
- B uses best practices as the standard for evaluating activity performance.
- C Both a and b are correct
- D Neither a nor b is correct.

END OF SECTION A

SECTION B

QUESTION 2

[25 marks]

(15 marks)

Kevin Space is a general manger of a plant which manufactures laptops. Kevin has approached you for advice in connection with his recent quarterly performance report. The summarized version of the report is as follows:

Quarter 1 – Overhead performance report – Laptop plant							
	Actual	Favourable/ Unfavourable					
Direct labour hours	90 000	95 000					
Variable overhead costs:							
Utilities	55 500	57 000	1 500	Favourable			
Indirect labour	82 100	85 500	3 400	Favourable			
Supplies	26 200	28 500	2 300	Favourable			

Kevin is aware of a technique called flexible budgets and he is keen on implementing it. Kevin has never encountered flexible budgets in his career and has requested you to assist him. The plant has the ability to produce a laptop every 2 hours. However, the plant could only manage to produce two laptops every 5 hours in the current quarter. Budgeted variable overheads vary directly with direct labour hours.

REQUIRED

2.1	Evaluate	the	performance	report	given	and	explain	why	the	variances	are	all	
	favourable	Э.	-	-	-		-	-					(4)

2.2 Calculate efficiency variances using capital budgeting techniques. (11)

QUESTION 3

(10 marks)

Heavy Cleaners manufactures a cleaning chemical using three materials Alpha, Calcium and Copper.

The standard cost and quantities to produce one litre of the cleaning chemical are as follows:

Direct material	Amount (R)
Alpha @ R7 per litre	1.75
Calcium @ R10 per litre	5
Copper @ R15 per litre	3.75
Total	10.50

Actual results for the month of September are as follows:

Production	45 000 litres of cleaning chemical
Alpha 12 000 litres @ R7.2 per litre	R86 400
Calcium 20 000 litres @ R9.7 per litre	R194 000
Copper 11 000 litres @ R16 per litre	R176 000

REQUIRED

Calculate mix and yield variances for Alpha, Calcium and Copper.

(10)

END OF SECTION B

SECTION C

QUESTION 4

(25 marks)

PART A

York Proprietary Limited was formed three years ago by a group of research scientists to market 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 Great, the company's chief executive. Dr Great 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 the company profitability. The data is set out below.

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

You are a member of York Proprietary Limited's management accounting team and shortly after the conference you are called to a meeting with Bill Harvey, the company's marketing director. He is interested in knowing how profitability changes with production.

REQUIRED

4.1	Calculate York Proprietary Limited's total fixed costs.	(4)
4.2	Calculate the profit of the company at its current sales volume of 65 000 packs.	(5)
4.3	Calculate the break-even point in units.	(2)
4.4	Calculate the margin of safety expressed as a percentage.	(3)

PART B

Bill Harvey now tells you of a discussion he has recently had with Dr Great. Dr Great had once more emphasised the need to produce as close as possible to the maximum capacity of 70 000 packs. Bill has the possibility of obtaining an export order for an extra 5000 packs but, because the competition is strong, the selling price would only be R330. Dr Great has suggested that this order should be rejected as it is below cost and so will reduce company profitability. However, she will be prepared, on this occasion, to sell the packs on a cost basis for R340 each, provided the order was increased to 15 000 packs.

REQUIRED

- 4.5 Calculate the change in profits from accepting the order for 5000 packs for R330 (3)
- 4.6 Calculate the change in profits from accepting an order for 15 000 packs for R340. (3)
- 4.7 Briefly explain and justify which proposal, if either, should be accepted (3)
- 4.8 Identify two non-financial factors which should be taken into account before making a final position. (2)

QUESTION 5

Africa.

You are a Product Accountant at EasyGo (Pty) Ltd. EasyGo is a well-known manufacturer of cosmetic products and has been voted the best supplier of cosmetics by a famous woman's magazine. You have been requested to be "the contact person" when it comes to all standard costing related queries as you obtained a B Com Accounting degree cum laude from one of the leading universities in South

A year ago EasyGo launched a new facial product called Sarcasmic. The product is marketed under the slogan: "It can make the face to do what cannot be done". Sarcasmic's budget for the year ended June 2016 was as follows:

June 2016 Budget- Sarcasmic

	R
Sales@ R190 per unit	1 140 000
Cost of production	
Direct labour @ R10 per hour	(300 000)
Direct material@ R30 per Kg	(360 000)
Fixed overheads	(120 000)
Budgeted profit	360 000

For the year ended June 2016, EasyGo produced and sold 500 units less than what was budgeted for. Actual results can be summarized as follows:

Summary of actual results for the year ended June 2016 - Sarcasmic

		R
Sales		1 072 500
Direct material purchased and used	12 000 kg	384 000
Direct labour	27 000 hours	324 000
Fixed production overheads		123 500

Fixed production overheads are absorbed based on the number of units of Sarcasmic produced.

REQUIRED

- 5.1 Prepare a statement showing the composition of the standard cost per unit of Sarcasmic (5)
- 5.2 Prepare a statement of variances for the year ended June 2016 including:
 - Material price and quantity variances.
 - Labour rate and efficiency variances.
 - Fixed overhead budget and volume variances. (15)
- 5.3 Explain why a company would operate a standard costing system and how this system can help improve company performance. (5)

(25 marks)

QUESTION 6

(25 marks)

(3)

Benton (Pty) Ltd, a paint manufacturer, operates a process costing system. Benton (Pty) Ltd uses the First-in-First-out method of process costing. The following details related to process 2 for the month of October:

Opening work in progress	5 000 litres fully complete as to transfers
	from process 1 and 40% complete as to
	labour and overhead, valued at R60 000.
Transfer from process 1	65 000 litres valued at cost of R578 500
Direct labour	R101 400
Variable manufacturing overheads	R80 000
Fixed manufacturing overheads	R40 000
Normal loss	5% of volume transferred from process
	1, scrap value is R2 per litre
Actual output	30 000 litres of paint X (a joint product)
	25 000 litres of paint Y (a joint product)
	7 000 litres of by-product Z
Closing work in progress	6 000 litres fully complete as to transfers
	from process 1 and 60% complete as to
	labour and overhead.

The final selling price of products X, Y and Z are:

Paint X	R15.00 per litre
Paint Y	R18.00 per litre
Paint Z	R4 per litre

There are no further processing costs associated with either paint X or the by-product, but paint Y requires further processing at a cost of R1.50 per litre.

All three products incur packaging costs of R0.50 per litre before they can be sold.

REQUIRED

- 6.1 Prepare the process 2 account for the month of October, apportioning the joint costs between the joint products, based upon their values at the point of separation. (20)
- 6.2 Prepare the normal loss/gain account, showing clearly the amount to be transferred to the profit and loss account.
- 6.3 Describe one other method of apportioning the joint costs between the joint products and explain why it is necessary to make such apportionments, and their usefulness when measuring product profitability. (2)

END OF SECTION C

END OF SECTION C Table of Areas under the Normal Curve

Values of the Standard Normal Distribution Function

Z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.0000	.0040	.0080	.0120	.0160	.0199	.0239	.0279	.0319	.0359
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0753
0.2	.0793	.0832	.0871	.0910	.0948	.0987	.1026	.1064	.1103	.1141
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879
0.5	.1915	.1960	.1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224
0.6	.2257	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2517	.2549
0.7	.2580	.2611	.2642	.2673	.2704	.2734	.2764	.2794	.2823	.2852
0.8	.2881	.2910	.2939	.2967	.2995	.3023	.3051	.3078	.3106	.3133
0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830
1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015
1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	.4441
1.6	.4452	.4463	.4474	.4484	.4495	.4505	.4515	.4525	.4535	.4545
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	.4616	.4625	.4633
1.8	.4641	.4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	.4817
2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	.4857
2.2	.4861	.4863	.4868	.4871	.4875	.4878	.4881	.4884	.4887	.4890
2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	.4911	.4913	.4916
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4932	.4934	.4934	.4936
2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	.4951	.4952
2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	.4963	.4964
2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	.4974
2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4979	.4980	.4981
2.9	.4981	.4982	.4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986
3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	.4989	.4990	.4990