QUESTION 1 [20]

QUESTION 1 – PROCESS COSTING

(a) Quantity statement

			Equivalent production					
Input	Details	Output	Ma	Material Labour			Overheads	
Units	-	Units	Units	%	Units	%	Units	%
20 000	Work-in-process (1/1)							
36 000	Put into production							
	Completed from:							
	Opening stock	19 000	-	-	13 300	70	13 300	70
	Current production	13 000②	13 000	100	13 000	100	13 000	100
	Completed and transferred	32 000	13 000		26 300		26 300	
	Spoilage:							
	Normal	2 050	2 050	100	1 230	60	1 230	60
	Abnormal	6 950	6 950	100	4 170	60	4 170	60
	Work-in-process (31/12)	15 000	15 000	100	6 750	45	6 750	45
56 000	-	56 000	37 000		38 450		38 450	

Notes:

① 20 000 – (20 000 x 5%) = 19 000

② Balancing figure

③ (56 000 – 15 000) x 5% = 2 050

(b) Production cost statement

	Costs for 2011	Equivalent production	Costs per unit
	R	Units	R
Material	59 000	37 000	1,59
Conversion costs	102 000	38 450	2,65
			4,24
Work in process on	145 500	=	
1 January 2011			
(45 300 + 68 200 + 32 000)			
Total cost to allocate	306 500		

(c) Cost allocation statement

(i) Calculation and allocation of cost of normal loss

R

6 5 2 0

This normal loss of R6 520 is allocated as follows:

		Units	Ratio	Rand amount allocated
Units completed	and	32 000 (calc. (a))	32 000/38 950	5 357
transferred	erred (multiplied by the total cost of normal loss of R6 520)			
Abnormal loss		6 950 (calc. (a))	6 950/38 950 (multiplied by the total cost of normal loss of R6 520)	1 163
Total		38 950	- -	6 520

(ii) Statement

Work-in-process 1 January 2010	145 500
Material (given)	45 300
Conversion costs (68 200 + 32 000)	100 200
Current production	95 722
Material (13 000 x 1,59)	20 670
Conversion costs (26 300 x 2,65)	69 695
Cost of normal loss allocated (from calc. (b)(i) above)	5 357
Cost of production transferred	241 222
Abnormal loss	23 265
Material (6 950 x 1,59)	11 051
Conversion costs (4 170 x 2,65)	11 051
Cost of normal loss allocated (from calc. (b)(i) above)	1 163
Work-in-process 31 January 2010	41 738
Material (15 000 X 1,59)	23 850
Conversion costs (6 750 X 2,65)	17 888
Total costs allocated	306 225
Rounding difference	275
Total costs to be allocated as per production cost statement (calc. (b))	306 500

QUESTION 2 [20]

(a) Budgeted income statement for the year ended 31 December 2011 (Absorption costing method; weighted average method of stock valuation)

	R	
Sales (7 000 units x R60)	420 000	
Less: Cost of Sales	(202 054)	
Opening stock	25 000¹	see below
Variable manufacturing costs (6 400 units x R24)	153 600	
Fixed manufacturing costs	35 000	
	213 600	
Less: Closing stock	(11 546) ²	see below
Gross profit	217 946	
Less: Selling and administrative costs	(90 000)	
Variable (7000 units x R10)	70 000	
Fixed	20 000	
	_	-
Net profit	127 946	-
		=

Notes:

¹ Manufacturing cost 2010:

Variable (6 000 units x R20) R120 000
Fixed R30 000
R150 000

Opening stock units 2011:

Completed uniforms at beginning of the year 2010 Nil

Manufactured 2010 6 000

Less: Sales 2010 (5 000)
1 000

Opening stock 2011: 150 000/6 000 x 1000 = 25 000

 $^{^{2}}$ Closing stock 2011: 213 600 /7 400 x (1000 + 6400 - 7000) = 11 546

(b) Budgeted income statement for the year ended 31 December 2011 (Direct costing method; FIFO method of stock valuation)

		R	
Sales (7 000	units x R60)	420 000	
Less: Cost of	Sales	(234 000)	
Openi	ng stock (1000 x R20)	20 000	
Variat	ole manufacturing costs (6 400 units x R24)	153 600	
Less:	Closing stock (400 units X R24)	(9 600)	
		164 000	
Add: Variable	selling and administrative cost (7000 units x R10)	70 000	
	·		
Marginal inco	me	186 000	
Less: Fixed c	osts	(55 000)	
Manut	facturing cost	35 000	
Selling	g and administrative cost	20 000	
Net profit		131 000	
			[8]
(c) (i)	TRUE		[1]
(c) (ii)	FALSE		[1]

QUESTION 3 [20]

STANDARD COSTING: ALFA ROMEO

Solution

a) Total variance Direct Material plastic

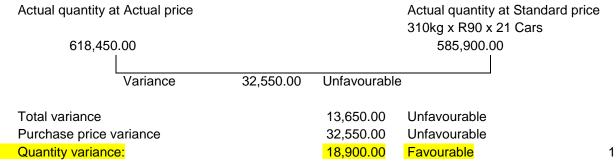
 Standard cost for 21 Cars (21 x R28,800)
 604,800.00

 Actual cost (given)
 618,450.00

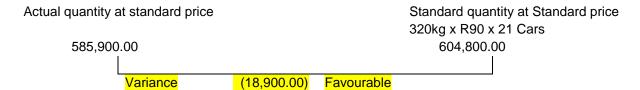
 Total variance
 13,650.00

 Unfavourable
 1

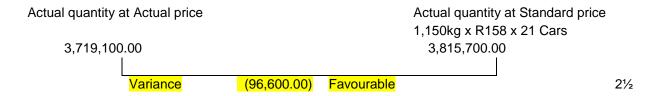
b) Material (Plastic) quantity variance:



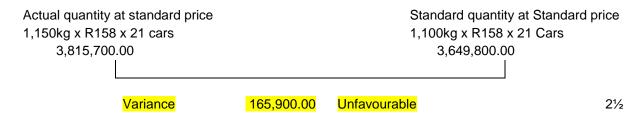
or



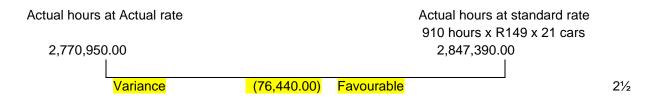
c) Material (Metal) purchase price variance:



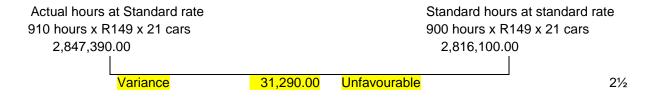
d) Calculate the material quantity (Metal) variance



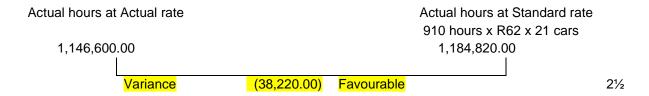
e) Labour rate variance



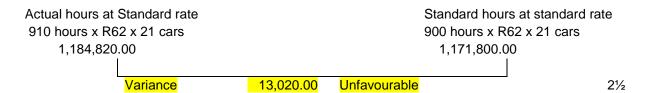
f) Labour efficiency variance



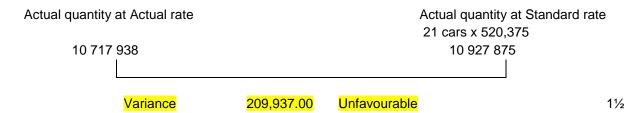
g) Calculate the variable overhead spending variance in respect of overheads varying with hours worked



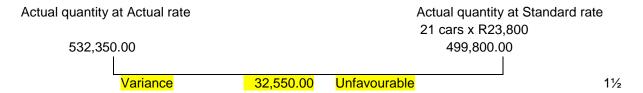
h) Calculate the variable overhead efficiency variance in respect of overheads varying with hours worked



i) Calculate the sales price variance



j) Calculate the variable selling and administrative overhead spending variance



PART A				[1	5]
(a)	Cornia	Kiekie	Fafa		

 $\Gamma \Lambda \Lambda I$

(a)		Cornia	Kiekie	Fafa	
	Input in kg	12,000	12,000	12,000	
	Three kg	4,000	4,000	4,000	
	Delivers	20,000	16,000	12,000	[7½]
					[1/2]
(b)	Sales value at split-off point	2.50	9.50	1.75	
	After further processing Incremental	15.75	25.20	5.25	
	income	13.25	15.70	3.50	
	Total income	265,000	251,200	42,000	
	Further processing costs	242,500	264,160	41,500	
	Profit/(loss)				
	1 10110 (1033)	22 500	(12 960)	500	
	Further processed	Yes	No	Yes	[7½]

Alternative to (b)

OUESTION A

Cornia split-off: $20,000 \times R2,50 = R50,000$

Cornia further processing: $(20,000 \times R15,75) - R242,500 = R72,500$

Thus: More profitable to sell after further processing, Yes

Kiekie split-off: $16,000 \times R9,50 = R152,000$

Kiekie further processing: $(16,000 \times R25,20) - R264,160 = R139,040$

Thus: More profitable to sell after split-off point, No

Fafa split-off: $12,000 \times R1,75 = R21,000$

Fafa further processing: $(12,000 \times R5,25) - R41,500 = R21,500$

Thus: More profitable to sell after further processing, Yes

QUESTION 4 (continued)

PART B [15]

- (a) Marginal income per trip
 - = Sales variable cost
 - $= R200 (R50 \times 1.1)$
 - = R200 R55
 - = R145 per trip

(b) Trips per week in order to make an after-tax profit of R36 000

Trips sold for target profit $= \frac{\text{Fixed cost} + \text{target pre-tax profit}}{\text{Fixed cost}}$

Marginal income per trip

= $\frac{(R200\ 000\ x\ 1.2) + (36\ 000\ /\ 0.72)}{R145\ (answer\ in\ (a))}$

= <u>R240 000 + R50 000</u> R145

= 2000 trips per year

= 40 trips per week [5]

[2]

[5]

(c) Pre-tax profit if sales volume is 25% more than break-even volume for 2011

Break-even volume for 2011 = Total fixed cost

Marginal income per unit

= <u>(R200 000 x 1.2)</u> R145 (answer in (a))

= 1 656 trips (rounded-up in order to break-even)

Pre-tax profit if sales volume changes:

(d) Margin of safety ratio

$$= \frac{1800 - 1656}{1800} \qquad x \qquad \frac{100}{1}$$

(e) True/False

PART C [10]

(a) Primary and secondary allocation of overheads

		Production		Ser	Total	
Overhead	Basis	Ndou	Ndau	Phala	Tholo	
		R	R	R	R	R
Insuarance	Floor area	9 375	8 125	4 375	3 125	25 000
Salaries	Direct	-	-	-	100 000	100 000
Canteen	No. of employees	3 000	2 400	1 500	600	7 500
Primary allocation		12 375	10 525	5 875	103 725	132 500
Allocation of Tholo costs		45 098	36 078	22 549	(103 725)	
		57 473	46 603	28 424	-	
Allocation of Phala costs		17 054	11 370	(28 424)		
Secondary allocation		74 527	57 973	-	-	