

**Task A9.57: Exercise on Manufacturing Accounting**

ATLANTIS Ltd. is a South African manufacturer for truck wheels. One wheel contains a rim, a tyre and a valve. ATLANTIS applies a job order costing system and a valuation of inventories following weighted average method.

At the beginning of the Accounting period 20X4, the opening stock value is: 340 rims at 1,200.00 ZAR/u. and 4,000 valves at 50.00 ZAR/u.

ATLANTIS Ltd. discloses the opening balance sheet as below:

Atlantis Ltd.			
STATEMENT of FINANCIAL POSITION			
as at 31.12.20X3			
A			C, L
<i>Non-current assets</i>	[ZAR]	<i>Equity</i>	[ZAR]
P, P, E	700,000.00	Share capital	5,000,000.00
Intangibles		Reserves	
Financial assets		Retained earnings	70,000.00
<i>Current assets</i>		<i>Liabilities (liab.)</i>	
Inventory	608,000.00	Long-term liab. IBL	700,000.00
Acc. receivables A/R		Short-term liab. A/P	100,000.00
Prepaid expenses		Provisions	
Cash/Bank	4,592,000.00	Income tax liab.	30,000.00
<b>Total assets</b>	<b>5,900,000.00</b>	<b>Total equity and liab.</b>	<b>5,900,000.00</b>

**Exhibit 1:** Balance sheet

The liabilities result from a bank loan taken in 20X2. Its interest rate is 7.5% and annual pay-off is amounting to 100,000.00 ZAR. The principal of the bank loan is 1,000,000.00 ZAR.

The retained earnings show the profit after taxes for 20X3. The income tax liabilities result from the last year's profit and must be paid in 20X4.

During the Accounting period 20X4, ATLANTIS Ltd. orders material for its job orders JO1 – JO4 which start on 15.01.20X4, 15.04.20X4, 15.07.20X4 and 15.10.20X4. The job orders' lot sizes are 2,500 wheels each. For the sake of simplification, it is assumed that no other job orders take place and that the job orders are completed within 4 weeks.

See below the purchases:

Date	amount	parts	unit price	net value
2.01.20X4	3000	tyres	4,600.00	13,800,000.00
3.01.20X4	4000	rims	1,250.00	5,000,000.00
8.01.20X4	1000	valves	50.00	50,000.00
2.04.20X4	3000	tyres	4,650.00	13,950,000.00
2.04.20X4	1000	rims	1,230.00	1,230,000.00
4.04.20X4	1000	valves	55.00	55,000.00
5.07.20X4	2000	tyres	4,650.00	9,300,000.00
6.07.20X4	4000	rims	1,360.00	5,440,000.00
6.07.20X4	2000	valves	55.00	110,000.00
4.10.20X4	3000	tyres	4,700.00	14,100,000.00
4.10.20X4	1000	rims	1,400.00	1,400,000.00
5.10.20X4	4000	valves	60.00	240,000.00

On 30.08.20X4, ATLANTIS Ltd. returns 300 tyres to its supplier due to quality issues. The tyres were bought in July. The supplier refunds ATLANTIS Ltd. with a voucher on 1.09.20X4. (The voucher is not used during 20X4.) ATLANTIS Ltd. does not send back the tyres but discharges them (free of costs).

Next to the materials, the production process includes direct labour to the extent of 60.00 ZAR/u.

For the production process, ATLANTIS Ltd. runs 2 cost centres: Assembling and Quality assurance (testing station). In both cost centres depreciation and indirect labour applies. In Assembling labour is 200,000.00 ZAR/a and depreciation is amounting to 60,000.00 ZAR/a. The predetermined overhead allocation rate is 25.00 ZAR/u. In the Testing Station labour is 160,000.00 ZAR/a and depreciation is 40,000.00 ZAR. The predetermined overhead allocation rate is 1,000 ZAR/h. The actual times in the testing station are 55 hours for JO1, 54 hours for JO2, 51 hours for JO3 and 53 hours for JO4.

Labour in the administration department is amounting 300,000.00 ZAR/a.

On 1.07.20X4, ATLANTIS Ltd. sells 4,000 wheels at 9,000.00 ZAR/u. On 28.12.20X4, the firm sells another 5,600 wheels at 9,200.00 ZAR/u. Both prices are net of VAT.

ATLANTIS Ltd. declares a dividend of 10.00 ZAR/s. One ordinary share's nominal value is 5.00 ZAR/s. There are no other shares than ordinary shares.

**Required: Prepare a balance sheet and an income statement for ATLANTIS Ltd. Disclose the value of inventories based on the materials and for finished**

goods as well. Prepare the income statement following the cost of sales format. Consider VAT at a VAT rate of 20 %. Assume all payment transactions are on cash.

## Solution:

Check the accounts:

Inventories rims INR				Inventories valves INV				Property, plant, equipment PPE			
D			C	D			C	D			C
340 OV	408,000.00	W1P	3,115,207.37	2500	4000 OV	200,000.00	W1P	125,000.00	2500	OV	700,000.00
4000 (3)	5,000,000.00	c/d	2,292,792.63	1840	1000 (4)	50,000.00	c/d	125,000.00	2500	b/d	700,000.00
	<u>5,408,000.00</u>		<u>5,408,000.00</u>			<u>250,000.00</u>		<u>250,000.00</u>			
1840 b/d	2,292,792.63	W2P	3,101,049.85	2500	2500 b/d	125,000.00	W2P	128,571.43	2500		
1000 (11)	1,230,000.00	c/d	421,742.78	340	1000 (12)	55,000.00	c/d	51,428.57	1000		
	<u>3,522,792.63</u>		<u>3,522,792.63</u>			<u>180,000.00</u>		<u>180,000.00</u>			
340 b/d	421,742.78	W3P	3,376,579.94	2500	1000 b/d	51,428.57	W3P	134,523.81	2500		
4000 (16)	5,440,000.00	c/d	2,485,162.84	1840	2000 (17)	110,000.00	c/d	26,904.76	500		
	<u>5,861,742.78</u>		<u>5,861,742.78</u>			<u>161,428.57</u>		<u>161,428.57</u>			
1840 b/d	2,485,162.84	W4P	3,420,037.71	2500	500 b/d	26,904.76	W4P	148,280.42	2500		
1000 (19)	1,400,000.00	c/d	465,125.13	340	4000 (20)	240,000.00	c/d	118,624.34	2000		
	<u>3,885,162.84</u>		<u>3,885,162.84</u>			<u>266,904.76</u>		<u>266,904.76</u>			
340 b/d	465,125.13				2000 b/d	118,624.34					

  

Inventories tyre INT				Inventories wheels INW				Accumulated depreciation ACC			
D			C	D			C	D			C
3000 (2)	13,800,000.00	W1P	11,500,000.00	2500	2500 W1P	15,007,707.37	COS	24,088,777.21	4000	(6)	60,000.00
	<u>13,800,000.00</u>	c/d	2,300,000.00	500	2500 W2P	15,103,264.13	c/d	6,022,194.30	1000	(8)	40,000.00
500 b/d	2,300,000.00	W2P	11,607,142.86	2500		<u>30,110,971.51</u>		<u>30,110,971.51</u>			<u>100,000.00</u>
3000 (10)	13,950,000.00	c/d	4,642,857.14	1000	1000 b/d	6,022,194.30	COS	34,524,859.83	5600	b/d	100,000.00
	<u>16,250,000.00</u>		<u>16,250,000.00</u>		2500 W3P	15,393,651.37	c/d	2,466,061.42	400		
1000 b/d	4,642,857.14	W3P	11,619,047.62	2500	2500 W4P	15,575,075.57		<u>36,990,921.24</u>			
2000 (14)	9,300,000.00	c/d	2,323,809.52	500		<u>36,990,921.24</u>		<u>36,990,921.24</u>			
	<u>13,942,857.14</u>		<u>13,942,857.14</u>		400 b/d	2,466,061.42					
500 b/d	2,323,809.52	(15)	1,395,000.00	300							
	<u>2,323,809.52</u>	c/d	928,809.52	200							
200 b/d	928,809.52	W4P	11,741,257.44	2500							
3000 (18)	14,100,000.00	c/d	3,287,552.08	700							
	<u>15,028,809.52</u>		<u>15,028,809.52</u>								
700 b/d	3,287,552.08										

  

Work-in-Process W1P				Work-in-Process W2P				Labour-20X4			
D			C	D			C	D			C
2500 INR	3,115,207.37	INW	15,007,707.37	2500 INR	3,101,049.85	INW	15,103,264.13	(5)	200,000.00	MOA	200,000.00
2500 INV	125,000.00			2500 INV	128,571.43			(7)	160,000.00	MOQ	160,000.00
2500 INT	11,500,000.00			2500 INT	11,607,142.86			(9)	300,000.00	ADM	300,000.00
LAB	150,000.00			LAB	150,000.00			(21)	600,000.00	W1P	150,000.00
MOA	62,500.00			MOA	62,500.00					W2P	150,000.00
MOQ	55,000.00			MOC	54,000.00					W3P	150,000.00
	<u>15,007,707.37</u>		<u>15,007,707.37</u>		<u>15,103,264.13</u>		<u>15,103,264.13</u>		<u>1,260,000.00</u>	W4P	150,000.00

  

Work-in-Process W3P				Work-in-Process W4P				Depreciation-20X4			
D			C	D			C	D			C
2500 INR	3,376,579.94	FGI	15,393,651.37	2500 INR	3,420,037.71	FGI	15,575,075.57	(6)	60,000.00	MOA	60,000.00
2500 INV	134,523.81			2500 INV	148,280.42			(8)	40,000.00	MOQ	40,000.00
2500 INT	11,619,047.62			2500 INT	11,741,257.44				<u>100,000.00</u>		<u>100,000.00</u>
LAB	150,000.00			LAB	150,000.00						
MOA	62,500.00			MOA	62,500.00						
MOQ	51,000.00			MOC	53,000.00						
	<u>15,393,651.37</u>		<u>15,393,651.37</u>		<u>15,575,075.57</u>		<u>15,575,075.57</u>				

## Exhibit 2: Accounts

<b>D Manufacturing overheads assembl MOA C</b>			<b>D Manufacturing overheads Quality MOQ C</b>			<b>D Cash/Bank C/B C</b>		
LAB	200,000.00	W1P 62,500.00 2500	LAB	160,000.00	W1P 55,000.00 55	OV	4,592,000.00	(1) 30,000.00
DPR	60,000.00	W2P 62,500.00 2500	DPR	40,000.00	W2P 54,000.00 54	(13)	43,200,000.00	(2) 16,560,000.00
		W3P 62,500.00 2500			W3P 51,000.00 51	(25)	61,824,000.00	(3) 6,000,000.00
		W4P 62,500.00 2500	P&L	13,000.00	W4P 53,000.00 53			(4) 60,000.00
		P&L 10,000.00						(5) 200,000.00
	<u>260,000.00</u>	<u>260,000.00</u>		<u>213,000.00</u>	<u>213,000.00</u>			(7) 160,000.00
								(9) 300,000.00
								(10) 16,740,000.00
								(11) 1,476,000.00
								(12) 66,000.00
								(14) 11,160,000.00
								(16) 6,528,000.00
								(17) 132,000.00
								(18) 16,920,000.00
								(19) 1,680,000.00
								(20) 288,000.00
								(21) 600,000.00
								(22) 60,000.00
								(23) 100,000.00
								c/d 30,556,000.00
						<u>109,616,000.00</u>	<u>109,616,000.00</u>	
						b/d 30,556,000.00		
<b>D Cost of sales-20X4 COS C</b>			<b>D Profit and Loss-20X4 P&amp;L C</b>			<b>D Issued capital ISS C</b>		
4000 INW	24,088,777.21	P&L 58,613,637.03	COS	58,613,637.03	REV	87,520,000.00	c/d 5,000,000.00	OV 5,000,000.00
5600 INW	34,524,859.83		INT	60,000.00				b/d 5,000,000.00
	<u>58,613,637.03</u>	<u>58,613,637.03</u>	MOA	10,000.00	MOC	13,000.00		
			ADM	300,000.00				
			EBT	28,549,362.97				
				<u>87,533,000.00</u>		<u>87,533,000.00</u>		
			ITL	8,564,808.89	b/d	28,549,362.97		
			R/E	19,984,554.08				
<b>D Long-term liabilities IBL C</b>			<b>D Short-term liabilities A/P C</b>			<b>D Retained earnings R/E C</b>		
(24)	100,000.00	OV 700,000.00	(23)	100,000.00	OV	100,000.00	S4D 10,000,000.00	OV 70,000.00
c/d	<u>600,000.00</u>		c/d	<u>100,000.00</u>	(24)	<u>100,000.00</u>	c/d 10,054,554.08	P&L 19,984,554.08
	<u>700,000.00</u>	<u>700,000.00</u>		<u>200,000.00</u>		<u>200,000.00</u>	<u>20,054,554.08</u>	<u>20,054,554.08</u>
		b/d 600,000.00			b/d	<u>100,000.00</u>	b/d 10,054,554.08	
<b>D VAT C</b>			<b>D Administration C</b>			<b>D Income tax liabilities ITL C</b>		
(2)	2,760,000.00	(13) 7,200,000.00	LAB	<u>300,000.00</u>	P&L	<u>300,000.00</u>	(1)	30,000.00
(3)	1,000,000.00	(15) 279,000.00					c/d	<u>8,564,808.89</u>
(4)	10,000.00	(25) 10,304,000.00					<u>8,594,808.89</u>	<u>8,594,808.89</u>
(10)	2,790,000.00						b/d	<u>8,564,808.89</u>
(11)	246,000.00							
(12)	11,000.00							
(14)	1,860,000.00							
(16)	1,088,000.00							
(17)	22,000.00							
(18)	2,820,000.00							
(19)	280,000.00							
(20)	48,000.00							
c/d	<u>4,848,000.00</u>							
	<u>17,783,000.00</u>	<u>17,783,000.00</u>						
		b/d 4,848,000.00						
<b>D Revenue C</b>			<b>D Accounts receivables A/R C</b>			<b>D Interest INT C</b>		
P&L	87,520,000.00	(13) 36,000,000.00 4000	(15)	<u>1,674,000.00</u>	c/d	<u>1,674,000.00</u>	(22)	60,000.00
	<u>600,000.00</u>	(25) 51,520,000.00 5600	b/d	<u>1,674,000.00</u>			P&L	<u>60,000.00</u>
	<u>87,520,000.00</u>	<u>87,520,000.00</u>						
<b>D Shareholders for dividends S4D C</b>								
c/d	<u>10,000,000.00</u>	R/E 10,000,000.00						
		b/d 10,000,000.00						

## Exhibit 2: Accounts (continued)

**Atlantis Ltd.**  
**STATEMENT of FINANCIAL POSITION**  
**as at 31.12.20X4**

A		as at 31.12.20X4		C, L	
Non-current assets		[ZAR]	Equity		[ZAR]
P, P, E	600,000.00		Share capital	5,000,000.00	
Intangibles			Reserves		
Financial assets			Retained earnings	10,054,554.08	
Current assets			Liabilities (liab.)		
Inventory	6,337,362.97		Long-term liab. IBL	600,000.00	
Acc. receivables A/R	1,674,000.00		Short-term liab. A/P	14,948,000.00	
Prepaid expenses			Provisions		
Cash/Bank	30,556,000.00		Income tax liab.	8,564,808.89	
Total assets	39,167,362.97		Total equity and liab.	39,167,362.97	

Exhibit 3: Balance Sheet

**Atlantis Ltd.**  
**STATEMENT of PROFIT & LOSS**  
**and OTHER COMPREHENSIVE INCOME**  
**for the year ended 31.12.20X4**

	[ZAR]
Revenue	87,520,000.00
	87,520,000.00
COS	(58,613,637.03)
Over-/underapplied overheads	3,000.00
Other expenses	(300,000.00)
<b>Earnings before int. &amp; taxes (EBIT)</b>	<b>28,609,362.97</b>
Interest	(60,000.00)
<b>Earnings before taxes (EBT)</b>	<b>28,549,362.97</b>
Income tax expenses	(8,564,808.89)
Deferred taxes	
<b>Earnings after taxes (EAT)</b>	<b>19,984,554.08</b>

Exhibit 4: Income Statement

0.075 rate of interest

**Atlantis Ltd.'s INTEREST and PAY-OFF PLAN**

Year	Opening amount [ZAR]	Interest [ZAR]	Pay-off [ZAR]	Annuity [ZAR]	Rest [ZAR]
20X1		0.00	0.00		0.00
20X2	1,000,000.00	75,000.00	100,000.00		900,000.00
20X3	900,000.00	67,500.00	100,000.00		800,000.00
20X4	800,000.00	60,000.00	100,000.00		700,000.00
20X5	700,000.00	52,500.00	100,000.00		600,000.00
20X6	600,000.00	45,000.00	100,000.00		500,000.00
20X7	500,000.00	37,500.00	100,000.00		400,000.00

**Exhibit 5:** Interest and pay-off schedule