

Task QR-9.21: Manufacturing Accounting – Process Costing

JOZI-MUSIC Ltd. is a production firm for music on CDs and DVDs. All CDs and DVDs are burned in the burning department and later printed in the printing department. The burning of a CD takes 1 min; burning of a DVD takes 5 min. Printing is for one CD 1 min and for one DVD 1 min as well. Most of the costs occur outside of the production process and are for the license of the musicians. Consider licenses being manufacturing expenses. A CD license is at 300,000.00 EUR/a and a DVD license at 400,000.00 EUR/a.

The material is the empty CD/DVD. One empty CD costs 0.10 EUR and an empty DVD costs 0.50 EUR. Both of the amounts are free of VAT. JOZI-MUSIC Ltd. purchases (one batch) 500,000 empty CDs and 500,000 empty DVDs. There are 100,000 empty CDs at 0.07 EUR/u and no empty DVDs on stock at the beginning of the accounting period.

Depreciation on the burning department is 25,000.00 EUR and on the printing department 60,000.00 EUR. Labour is 60,000.00 EUR for the burning department and 100,000.00 EUR for the printing department.

During the fiscal year 20X4 JOZI-MUSIC Ltd. produces 500,000 CDs “Club beats” and 300,000 DVDs “African House Music 2004”.

During the fiscal year 20X4 JOZI-MUSIC Ltd. sells 400,000 “Club Beats”-CDs at a net selling price of 8.00 EUR/u and 180,000 “African House Music 2004” DVDs at a net selling price of 12.00 EUR/u.

JOZI-MUSIC Ltd. has 2,500,000.00 EUR administration and distribution expenses, paid by bank transfer.

Required: Prepare an income statement and determine the closing stock of CDs and DVDs. Run a process costing for the profit calculation. For any stock movements apply weighted average method.

Solution:

JOZI-MUSIC makes bookkeeping entry for licensing, purchase, labour, and depreciation

(1) Licensing of “Club Beats”

DR Intangible Assets	300,000.00 EUR
CR Cash/Bank	300,000.00 EUR

(2) Licensing of “African House Music”

DR Intangible Assets	400,000.00 EUR
CR Cash/Bank	400,000.00 EUR

(3) Purchase of empty CDs at $500,000 \times 0.10 = 50,000.00$ EUR

DR Inventory – CDs	50,000.00 EUR
CR Cash/Bank	50,000.00 EUR

(4) Purchase of empty DVDs at $500,000 \times 0.50 = 250,000.00$ EUR.

DR Inventory – DVDs	250,000.00 EUR
CR Cash/Bank	250,000.00 EUR

(5) Depreciation on the burning department

DR Depreciation	25,000.00 EUR
CR Acc. Depr. – burn	25,000.00 EUR

(6) Depreciation on the printing department

DR Depreciation	20,000.00 EUR
CR Acc. Depr. – print	20,000.00 EUR

(7) Labour for burning posted

DR Labour	60,000.00 EUR
CR Cash/Bank	60,000.00 EUR

(8) Labour for printing posted

DR Labour	100,000.00 EUR
CR Cash/Bank	100,000.00 EUR

(9) For “Club Beats” JOZI-Music releases 500,000 CDs from stock. The amount is $500,000 \times (100,000 \times 0.07 + 500,000 \times 0.10) / 600,000 = 47,500.00$ EUR.

DR MSA burn	47,500.00 EUR
CR Inventory CD	47,500.00 EUR

(10) For “African House Music” JOZI-Music releases 300,000 empty DVDs from stock. The amount is $300,000 \times 0.50 = 150,000.00$ EUR.

DR MSA burn	150,000.00 EUR
CR Inventory DVD	150,000.00 EUR

(11) JOZI-MUSIC assigns the licenses to the MSA burn account also. The license for the CD is 300,000.00 EUR.

DR MSA Burn	300,000.00 EUR
CR Intangible Assets	300,000.00 EUR

(12) The license for the DVD is 400,000.00 EUR.

DR MSA Burn	400,000.00 EUR
CR Intangible Assets	400,000.00 EUR

(13) JOZI-MUSIC Ltd. allocated depreciation to the burning department's Manufacturing Summary Account.

DR MSA Burn	25,000.00 EUR
CR Depreciation	25,000.00 EUR

(14) JOZI-MUSIC Ltd. assigns labour to the MSA Burn account.

DR MSA Burn	60,000.00 EUR
CR Labour	60,000.00 EUR

The transfer of the burned CDs and the burned DVDs requires a calculation at this stage. The direct cost like license and material are allocated to the products. However depreciation and labour need to be assigned based on the routings and production amounts. Overheads for the "Club Beats"-CD amount to $(25,000 + 60,000) \times 500,000 \times 1 / (1 \times 500,000 + 5 \times 300,000) = \mathbf{21,250.00 \text{ EUR}}$. The amount allocated to the DVD "African House Music" is $(25,000 + 60,000) \times 300,000 \times 5 / (1 \times 500,000 + 5 \times 300,000) = \mathbf{63,750.00 \text{ EUR}}$. The cost for the burned CDs are $47,500 + 300,000 + 21,250 = \mathbf{368,750.00 \text{ EUR}}$. The cost for the burned DVDs are $150,000 + 400,000 + 63,750 = \mathbf{613,750.00 \text{ EUR}}$.

(15; 16) The amounts are transferred to the printing department.

DR MSA Print	368,750.00 EUR
CR MSA Burn	368,750.00 EUR

DR MSA Print	613,750.00 EUR
CR MSA Burn	613,750.00 EUR

(17) JOZI-MUSIC Ltd. allocated depreciation to the printing department's Manufacturing Summary Account.

DR MSA Print	60,000.00 EUR
CR Depreciation	60,000.00 EUR

(18) JOZI-MUSIC Ltd. assigns labour to the MSA Burn account.

DR MSA Print	100,000.00 EUR
CR Labour	100,000.00 EUR

The transfer of the printed CDs and the printed DVDs requires a calculation again. The direct costs as resulting from the burning department are allocated to the products straight away. However depreciation and labour need to be assigned based on the routings and production amounts. Overheads for the "Club Beats"-CD amount to $(60,000 + 100,000) \times 500,000 \times 1 / (1 \times 500,000 + 1 \times 300,000) = \mathbf{100,000.00 \text{ EUR}}$.

The amount allocated to the DVD “African House Music” is $(60,000 + 100,000) \times 300,000 \times 1 / (1 \times 500,000 + 1 \times 300,000) = \mathbf{60,000.00 \text{ EUR}}$. The cost for the printed CDs are $368,750 + 100,000 = \mathbf{468,750.00 \text{ EUR}}$. The cost for the printed DVDs are $613,750 + 60,000 = \mathbf{673,750.00 \text{ EUR}}$.

(19, 20) Transfer of CDs and DVDs to Finished Goods Inventory account.

DR Finished Goods Inventory	468,750.00 EUR
CR MSA Print	468,750.00 EUR

DR Finished Goods Inventory	673,750.00 EUR
CR MSA Print	673,750.00 EUR

(21; 22) Costs of sales for the CDs amount to $468,750 \times 400,000 / 500,000 = \mathbf{375,000.00 \text{ EUR}}$ and for the “African House Music” DVD to $673,750 \times 180,000 / 300,000 = \mathbf{404,250.00 \text{ EUR}}$.

DR Cost of Sales	375,000.00 EUR
CR Finished Goods Inventory	375,000.00 EUR

DR Cost of Sales	404,250.00 EUR
CR Finished Goods Inventory	404,250.00 EUR

The revenue is posted eventually.

(23; 24) Posting revenue for the CDs at $400,000 \times 8 = \mathbf{3,200,000.00 \text{ EUR}}$ and for the DVDs $180,000 \times 12 = \mathbf{2,160,000.00 \text{ EUR}}$.

DR Cash/Bank	3,200,000.00 EUR
CR Sales	3,200,000.00 EUR

DR Cash/Bank	2,160,000.00 EUR
CR Sales	2,160,000.00 EUR

(25) Posting administration and distribution expenses

DR Admin & Distr.	2,500,000.00 EUR
CR Cash/Bank	2,500,000.00 EUR

Observe JOZI-MUSIC Ltd.’s accounts below.

D		Intangible Asses	C
(1)	300,000.00	(11)CB	300,000.00
(2)	400,000.00	(12)AM	400,000.00
	<u>700,000.00</u>		<u>700,000.00</u>

D		Cash/Bank	C
(23)CB	3,200,000.00	(1)	300,000.00
(24)AM	2,160,000.00	(2)	400,000.00
		(3)	50,000.00
		(4)	250,000.00
		(7)	60,000.00
		(8)	100,000.00
		(25)	2,500,000.00
		c/d	1,700,000.00
	<u>5,360,000.00</u>		<u>5,360,000.00</u>
b/d	1,700,000.00		

D		Inventory CDs	C
OV	7,000.00	(9)	47,500.00
(3)	50,000.00	c/d	9,500.00
	<u>57,000.00</u>		<u>57,000.00</u>
b/d	9,500.00		

D		Inventory DVDs	C
(4)	250,000.00	(10)	150,000.00
		c/d	100,000.00
	<u>250,000.00</u>		<u>250,000.00</u>
b/d	100,000.00		

D		Depreciation	C
(5)	25,000.00	(13)	25,000.00
(6)	60,000.00	(17)	60,000.00
	<u>85,000.00</u>		<u>85,000.00</u>

D		Acc depr - burn	C
c/d	25,000.00	(5)	25,000.00
		b/d	25,000.00

D		Acc depr - print	C
c/d	60,000.00	(6)	60,000.00
		b/d	60,000.00

D		Labour	C
(7)	60,000.00	(14)	60,000.00
(8)	100,000.00	(18)	100,000.00
	<u>160,000.00</u>		<u>160,000.00</u>

D		MSA burn	C
(9) CB	47,500.00	(15)CB	368,750.00
(10)AM	150,000.00	(16)AM	613,750.00
(11)CB	300,000.00		
(12)AM	400,000.00		
(13)	25,000.00		
(14)	60,000.00		
	<u>982,500.00</u>		<u>982,500.00</u>

D		MSA print	C
(15)CB	368,750.00	(19)CB	468,750.00
(16)AM	613,750.00	(20)AM	673,750.00
(17)	60,000.00		
(18)	100,000.00		
	<u>1,142,500.00</u>		<u>1,142,500.00</u>

D		Finished goods inventory	C
(19)CB	468,750.00	(21) CB	375,000.00
(20)AM	673,750.00	(22)AM	404,250.00
		c/d	363,250.00
	<u>1,142,500.00</u>		<u>1,142,500.00</u>
b/d	363,250.00		

D		Cost of sales	C
(21) CB	375,000.00	P&L	375,000.00
(22)AM	404,250.00	P&L	404,250.00
	<u>779,250.00</u>		<u>779,250.00</u>

Exhibit 1: JOZI-MUSIC Ltd.'s accounts

Sales				Profit and Loss			
D			C	D			C
P&L	3,200,000.00	(23)CB	3,200,000.00	COS	375,000.00	Sales	3,200,000.00
P&L	2,160,000.00	(24)AM	2,160,000.00	COS	404,250.00	Sales	2,160,000.00
				A&D	2,500,000.00		
				EBT	2,080,750.00		
					<u>5,360,000.00</u>		<u>5,360,000.00</u>
				ITL	624,225.00	b/d	2,080,750.00
				R/E	1,456,525.00		
					<u>2,080,750.00</u>		<u>2,080,750.00</u>

Admin & Distr				Income tax liabilities			
D			C	D			C
(25)	<u>2,500,000.00</u>	P&L	<u>2,500,000.00</u>	c/d	<u>624,225.00</u>	P&L	<u>624,225.00</u>
						b/d	<u>624,225.00</u>

R/E			
D			C
c/d	<u>1,456,525.00</u>	P&L	<u>1,456,525.00</u>
		b/d	<u>1,456,525.00</u>

Exhibit 1: JOZI-MUSIC Ltd.'s accounts (continued)

The closing stock amounts to $9,500 + 100,000 + 363,250 = 472,750.00$ EUR.

Jozi-Music Ltd.'s
STATEMENT of COMPREHENSIVE INCOME
for the year ended 31.12.20X4

	[EUR]	[EUR]
Revenue	3,200,000.00	2,160,000.00
Other income		
	<u>3,200,000.00</u>	<u>2,160,000.00</u>
COS	375,000.00	404,250.00
	<u>2,825,000.00</u>	<u>1,755,750.00</u>
	4,580,750.00	
Other expenses	<u>2,500,000.00</u>	
Earnings before int and taxes (EBIT)	2,080,750.00	
Interest		
Earnings before taxes (EBT)	2,080,750.00	
Income tax expenses	624,225.00	
Deferred taxes		
Earnings after taxes (EAT)	1,456,525.00	

Exhibit 2: JOZI MUSIC Ltd.'s statement of comprehensive income