Written Exam for the B.Sc. or M.Sc. in Economics summer 2017

Managerial Accounting

Guiding Solutions

15. June 2018

(3-hour open/closed book exam)

Exercise 1

Question 1

(In EUR)			
Schedule of Cost of Goods Manufactured			
For the Year Ended December 31			
Direct materials:			
Raw materials inventory, beginning	120,000		
Add: Purchases of raw materials	870,000		
Raw materials available for use	990,000		
Deduct: Raw materials inventory, Ending	30,000		
Raw materials used in production		960,000	
Direct labour		279,000	
Manufacturing overhead:			
Insurance, factory	24,000		
Utilities, factory	135,000		
Indirect labour	180,000		
Cleaning supplies, factory	21,000		
Rent, factory building	360,000		
Maintenance, factory	90,000		
Total overhead costs		810,000	
Total manufacturing costs		2,049,000	(given)
Add: Work in process inventory, beginning		126,000	
		2,175,000	
Deduct: Work in process inventory, ending		105,000	
Cost of goods manufactured		2,070,000	

The cost of goods sold section of the statement of operating profit and loss account follows:

Finished goods inventory, beginning	150,000	
Add: Cost of goods manufactured	2,070,000	
Goods available for sale	2,220,000	(given)
Deduct: Finished goods inventory, ending	240,000	
Cost of goods sold	1,980,000	(given)

Question 2

Direct materials: EUR 960,000 ÷ 40,000 units = EUR 24 per unit.
Rent, factory building: EUR 360,000 ÷ 40,000 units = EUR 9 per unit.

Question 3

	Per Unit		*Total*	
Direct materials	24.00	(Same)	1,200,000**	(Changed)
Rent, factory building	7.20*	(Changed)	360,000	(Same)

* EUR 360,000 ÷ 50,000 units = EUR 7.20 per unit.
** EUR 24 x 50,000 units = EUR 1,200,000.

Question 4

The unit cost for rent dropped from EUR 9.00 to EUR 7.20, because of the increase in production between the two years. Since fixed costs do not change in total as the activity level changes, they will decrease on a unit basis as the activity level rises.

Exercise 2

Question 1

Sales	=	Variable expenses + Fixed expenses + Profits
1500Q	=	900Q + 7,500,000 + £0
600Q	=	7,500,000
Q	=	7,500,000 ÷ 600
Q	=	12,500 pairs of shoes

12,500 pairs of shoes x 1,500 = SEK 1,875,000 in sales.

Question 2

The simplest approach is:

Break-even sales	12,500 pairs of shoes
Actual sales	12,000 pairs of shoes
Sales short of break-even	500 pairs of shoes

500 pairs of shoes x 600 contribution margin = SEK 300,000 loss

Question 3

The variable expenses will now be 937.50 per pair of shoes, and the contribution margin will be 562.25 per pair.

Sales	=	Variable expenses + Fixed expenses + Profits
1,500Q	=	937.50Q + 1,500,000 + £0
562.25Q	=	7,500,000
Q	=	7,500,000 ÷ 562.25
Q	=	13,333 pairs of shoes (rounded)

13,333 pairs of shoes x 1500 = SEK 20,000,000 in sales.

Question 4

The simplest approach is:

Actual sales	15,000 pairs of shoes
Break-even sales	12,500 pairs of shoes
Excess over break-even sales	2,500 pairs of shoes

2,500 pairs of shoes x EUR 575* = SEK 1,437,500 profit

*600 present contribution margin less EUR 25 commission = EUR 575

Question 5

The new variable expenses will be EUR 675 per pair of shoes.

Sales	=	Variable expenses + Fixed expenses + Profits
1,500Q	=	675Q + 9,075,000 + £0
825Q	=	9,075,000
Q	=	9,075,000 ÷ 825
Q	=	11,000 pairs of shoes

11,000 pairs of shoes x 1,500 = SEK 16,500,000 in sales.

Exercise 3

Question 1
Materials price variance = (AQ x AP) – (AQ x SP)
(4,248,000) – (180,000 metres. x 24 per metre.) = 72,000 F

Question 2.

	Lot Number							
	1		**2**		**2**		**Total**	
Standard metres:								
Units in lot (dozens)	1,500		950		2,100		4,550	
Standard metres per dozens	×32		×32		×32		×32	
Total standard metres Allowed	48,000		30,400		67,200		145,600	
Actual metres used	48,300		30,140		67,250		145,690	
Quantity variance in metres	300	U	260	F	50	U	90	U
Quantity variance in amounts X DKK 24 per metre	7,200	U	6,240	F	1,200	U	£2,160	U

Question 3

Labour rate variance = (AH x AR) – (AH x SR)
(1,922,800) – (25,300 hrs.* x 75 per hr.) = 25,300 U

*8,900 hrs. + 6,130 hrs. + 10,270 hrs. = 25,300 hrs.

Question 4

	Lot Number							
	1		**2**		**3**		**Total**	
Standard hours:								
Units in lot (dozens)	1,500		950		2,100		4,550	
Standard hours per dozens	×6		×6		×6		×6	
Total	9,000		5,700		12,600		27,300	
Percentage completed	× 100		× 100		× 80		—	
Total standard hours allowed	9,000		5,700		10,080		24,780	
Actual hours worked	8,900		6,130		10,270		25,300	
Labour efficiency variance in hours	100	F	430	U	190	U	520	U
Labour efficiency variance in amounts x DKK 75 per hr.	7,500	F	32,250	U	14,250	U	39,000	U