

**BRAINBOX VIETNAM
VAN LANG UNIVERSITY**

**Cost Accounting
Final Examination**

Date : 31 August 2010

Please read these instructions carefully

- a) Check that this set of examination paper consists of 7 pages including this page.
 - b) Answer ALL questions.
 - c) All essential workings must be shown.
 - d) Write ALL your answers in the writing paper provided.
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Total Marks for this paper : 100

Time Duration : 3 hours

Student Details
Name
CMND

TOTAL MARKS

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Question 1 [10 marks]

A. Prepare the Process One Account [7 marks]

Process One										
Bal b/d			4000	1		Process 2 (7200+4200+1800)			13200	2
Materials			6000	1/2		Bal c/d (1200+350+90)			1640	2
Labour			3350	1/2						
Overhead			1490	1/2						
			<u>14840</u>	<u>1/2</u>					<u>14840</u>	
		Materials				Labour		Overhead		
	Physical	%	EU	£	%	EU	£	%	EU	£
	Units									
Finished output	600	100%	600	7200	100%	600	4200	100%	600	1800
Closing WIP	100	100%	<u>100</u>	<u>1200</u>	50%	<u>50</u>	<u>350</u>	30%	<u>30</u>	<u>90</u>
			700	8400		650	4550		630	1890

B. Briefly explain the following [3 marks]:

1. The meaning of Equivalent Unit

The notional unit that equates WIP with one finished unit of output

2. Why First-In-First-Out (FIFO) method cannot be used here

The percentage of completion in each cost element of opening WIP is not given

Question 2 [10 marks]

A. A statement to show the profit using marginal costing [4 marks]

	£	
Sales (30x5200)	156 000	½
Production cost of sales [5200x (6+7.5+2.5)]	<u>83 200</u>	1½
Contribution	72 800	½
Fixed overhead	<u>(27 400)</u>	½
Profit	<u>45 400</u>	1

B. A statement to show the profit using absorption costing [4 marks]

	£	
Sales (30x5200)	156 000	½
Production cost [5200x (6+7.5+2.5+5)]	<u>109 200</u>	1½
Gross Profit	46 800	½
Over absorbed overhead (5800x5 – 27400)	<u>1 600</u>	1
Profit	<u>48 400</u>	½

C. Reconcile the difference in the two profits [2 marks]

When stock level increases, absorption costing gives higher profit

The difference in profit can be explained as follows:

Increase in stock level = 600 units x £5 fixed overhead absorbed = £3000

Question 3 [10 marks]

Calculate the following variances:

- A. Material price variance $[13 - 121500/9720] \times 9720 = \text{£}4860\text{F}$ 1½
 - B. Material usage variance $[2 \times 4820 - 9720] \times 13 = \text{£}1040\text{A}$ 1½
 - C. Direct labour rate variance $[4 - 80220/19100] \times 19100 = \text{£}3820\text{A}$ 1½
 - D. Direct labour efficiency variance $[4820 \times 4 - 19100] \times 4 = \text{£}720\text{F}$ 1½
 - E. Fixed overhead expenditure variance $[5000 \times 10 - 41700] = \text{£}8300\text{F}$ 1½
 - F. Fixed overhead volume capacity variance $[4820 - 5000] \times 10 = \text{£}1800\text{A}$ 1½
- Bonus ½

Question 4 [10 marks]

- A. Calculate the breakeven point (in units) [2 marks]
 $24000 / 14 - 6 = 3000$
- B. Calculate the margin of safety as a percentage of annual sales [1 mark]
 $8000 - 3000 / 8000 = 62.5\%$
- C. Calculate the breakeven sales revenue using the new production method [2 marks]
 $[24000 \times 1.3 / 15 - 5] \times 15 = \text{£}46800$
- D. Calculate the number of units to be sold if the company wishes to achieve the same profit as that under the existing method [2 marks]
Profit = $8000 \times 8 - 24000 = \text{£}40000$
No of units = $[31200 + 40000 / 15 - 5] = 7120$
- E. What are two limitations or weaknesses of Cost-Volume-Profit analysis? [3 marks]
 - 1. Only applies to one product
 - 2. Assumes variable cost per unit is constant

Question 5 [10 marks]

- A. Calculate the shortfall in machine hours for the next period. [2 marks]
 $50000 - \text{A Yo } (48/8 + 36/6)\text{h} \times 3000 - \text{B Yo } (32/8 + 42/6)\text{h} \times 2000 - \text{C Yo } (56/8 + 42/6)\text{h} \times 2000$
 $= 36\,000 \text{ hrs}$
- B. [6 marks]

	A Yo	B yo	C yo
Contribution /hr	$(200-70-48-36)/12$ $= \text{£}3.83$	$(158-40-32-42)/11$ $= \text{£}4.00$	$(227-80-56-42)/14$ $= \text{£}3.50$
Priority	2 2 marks	1 2 marks	3 2 marks

- C. Calculate the maximum possible profit for the company. [2 marks]
 $B Y_0 2000 \times 44 + A Y_0 2333 \times 46 - 100\,000 = \text{£}95\,318$

Question 6 [10 marks]

- A. What is the reorder level? [1 mark]
 $5 \times 1000 = 5000 \text{ units}$
- B. Calculate the Economic Order Quantity [2 marks]
 $\sqrt{2 \times 100 \times 45000 / 2\% \times 50}$
 $= 3000 \text{ units}$
- C. What is the maximum stock level? [2 marks]
 $5000 - (3 \times 600) + 3000$
 $= 6200 \text{ unit}$

- D.
 [5 marks]

	Order at EOQ	Order at 10000
Purchase cost	45000×50 $= 2\,250\,000$	$45000 \times 50 \times 0.95$ $= 2\,137\,500$
Holding cost	$2\% \times 50 \times \frac{1}{2} \times 3000$ $= 1500$	$2\% \times 50 \times 0.95 \times \frac{1}{2} \times 10000$ $= 4750$
Ordering cost	$100 \times 45000 / 3000$ $= 1500$	$100 \times 45000 / 10000$ $= 450$
Total cost	$\text{£}2\,253\,000$ 2m	$\text{£}2\,142\,700$ 2m
	Should order at 10 000 units, cost saving $\text{£}110\,300$ [1m]	

Question 7 [10 marks]

Required:

A. [7 marks]

Joint costs $120\,000 + 248\,000 + 50\% \times 360\,000 - 800 \times 10$
 = £544 000 **[1m]**

	A	B	C	Ab loss
	£000	£000	£000	£000
Production costs	$7200/13600 \times 544$	$4200/13600 \times 544$	$2000/13600 \times 544$	$200/13600 \times 544$
	= 288	= 168	= 80	= 8

Profit Statement:

	A	B	C	Abnormal loss	Total	
	£000	£000	£000	£000	£000	
Sales	360	252	60	0	568	1m
Production cost	<u>288</u>	<u>168</u>	<u>80</u>	<u>8</u>	<u>544</u>	3m
Profit (loss)	<u>72</u>	<u>84</u>	<u>(20)</u>	<u>(8)</u>	<u>128</u>	2m

B. Explain the meaning of Abnormal Loss and Abnormal Gain [3 marks]

Abnormal loss = Actual loss less Normal loss

Abnormal gain = Normal loss less Actual loss

Question 8 [15 marks]

Required:

Prepare the following budgets for the months of January to March.

A. Sales Budget [2 marks]

	Dec	Jan	Feb	Mar
Sales units	4000	4200	4200	4500
Sales revenue	£120000	£126000	£126000	£135000

B. Production Budget [3 marks]

	Jan	Feb	Mar	Apr
Production units	4200	25% 4200 + 75%x4500	25% x 4500 + 75%x4600	25% x4600 + 75% x 4800
	= 4200	= 4425	= 4575	= 4750

C. Material Purchase Budget [2 marks]

	Dec	Jan	Feb	Mar
Purchase units	4200	4425	4575	4750
Purchase cost	£33600		£35400	£36600
	£38000			

D. Cash Budget [8 marks]

	Jan	Feb	Mar
Receipts from customers	40%x126000 + 95%x60%x120000 =118 800	40%x126000 +95%x60%x126000 = 122 220	40%x135000 +95%x60%x126000 = 125 820 3
Materials creditors	(33600)	(35400)	(36600) 1
Direct labour	(21000)	(22125)	(22875) 1
Production overheads	(11000)	(11000)	(11000) 1
Cash inflow (outflow)	53 200	53 695	55 345 1
Opening cash balance	12 000	65 200	118 895 ½
Closing cash balance	65 200	118 895	174 240 ½

Question 9 [15 marks]

Overhead analysis worksheet:

	Machining £	Assembly £	Store £	Maintenance £	
Allocated overhead	9600	8200	1500	3700	½ m
Factory Rent (area)	20000	12000	4000	800	2m
Power (machine hrs)	9000	3000	500	500	2m
	<u>38600</u>	<u>23200</u>	<u>6000</u>	<u>5000</u>	½ m
Apportion store overhead	2653	2653	(6633)	1327	1½ m
Apportion maint overhead	3163	2531	633	(6327)	1½m
	<u>44416</u>	<u>28384</u>	<u>0</u>	<u>0</u>	1m

$$S = 6000 + 0.1M$$

$$M = 5000 + 0.2S$$

$$S = 6633 \quad \mathbf{1m}$$

$$M = 6327 \quad \mathbf{1m}$$

Machining → $44416/9000 = \text{£}4.94$ per hour

Assembly → $28384 / 12000 = \text{£}2.37$ per hour