EDUCATION DEVELOPMENT INTERNATIONAL PLC
SAMPLE PAPER ANSWERS 2008
MANAGEMENT ACCOUNTING (ASE3024)
LEVEL 3

QUESTION 1

(a) (i)

	Product A	Product B
Sales (£ per unit)	35	38
Variable cost (£ per unit)	27.8	33.5
Contribution (£ per unit)	7.2	4.5
Units	25,000	15,000
Total contribution	£180,000	£67,500
Fixed cost	£100,000	£30,000
Advertising	£30,000	£15,000
Profit	£50,000	£22,500
Capital Employed		
Fixed	£162,500	£86,300
Variable	£87,500	£114,000
	£250,000	£200,300
Return on Capital Employed	£50,000 / £250,000 **= 20%**	£22,500 / £200,300 **= 11.2%**
Residual Income		
Profit	£50,000	£22,500
Interest	£37,500	£30,045
Residual Income	**£12,500**	**£(7,545)**

(9 marks)

(ii)

	Product A	Product B
Sales (£ per unit)	35	38.5
Variable cost (£ per unit)	27.8	33.5
Contribution (£ per unit)	7.2	5.0
Units	30,000	10,000
Total	£216,000	£50,000
Fixed cost	£110,000	£20,000
Advertising	£49,500	£7,500
Profit	£56,500	£22,500
Capital Employed		
Fixed	£202,500	£46,300
Variable	£105,000	£77,000 -
	£307,500	£123,300
Return on Capital Employed	£56,500 / £307,500 **= 18.4%**	£22,500 / £123,300 **= 18.2%**
Residual Income		
Profit	£56,500	£22,500
Interest	£46,125	£18,495
Residual Income	**£10,375**	**£4,005**

(7 marks)

QUESTION 1 CONTINUED

(b)

A is currently profitable showing a return above the cost of capital and thus a positive residual income. The worries about B are borne out by the fact it has a negative residual income and a low ROCE.

With the proposed strategy, from a company point of view the profit has increased, and so has the residual income. Both products are now in surplus with residual income and have returns above the cost of capital.

The capital employed has decreased, due to a reduction in the variable element, thus reducing any strain that there may be on liquidity.

(4 marks)

QUESTION 2

(a) (i) Accounting Rate of Return

	Machine X	**Machine Y**
Annual profit	$\frac{22 \times 50{,}000 \text{ units}}{5 \text{ years}} = £220{,}000$	$\frac{22 \times 50{,}000 \text{ units}}{5 \text{ years}} = £220{,}000$
Average capital employed	$\frac{1{,}500{,}000 + 100{,}000}{2} = £800{,}000$	$\frac{1{,}800{,}000 + 400{,}000}{2} = £1{,}100{,}000$
	ARR = $\frac{220{,}000}{800{,}000}$ = **27.5%**	$\frac{220{,}000}{1{,}100\,000}$ **= 20%**

(6 marks)

(ii) Net present value (£000)

	Machine X			**Machine Y**		
	Cash flow	**Discount factor**	**NPV**	**Cashflow**	**Discount factor**	**NPV**
Year 0	(1,500)	1.000	(1,500)	(1,800)	1.000	(1,800)
1	500	0.909	454.5	300	0.909	272.7
2	500	0.826	413.0	400	0.826	330.4
3	500	0.751	375.5	600	0.751	450.6
4	500	0.683	341.5	600	0.683	409.8
5	600	0.621	372.6	1000	0.621	621.0
			+ 457.1			**+ 284.5**

(8 marks)

(b) On the basis of the ARR and the Net Present Value, Machine X should be purchased.

(2 marks)

QUESTION 2 CONTINUED

(c) The accounting rate of return ignores the time value of money, and cannot be compared with the cost of capital. The method does produce a percentage, which is easily understandable.

The net present value method recognises the time value of money. It also incorporates a criterion against which projects may be evaluated, i.e. the cost of capital.NPV is expressed as a return in £ which is not as easily understandable as a percentage.

(4 marks)

QUESTION 3

(a)

£(000)	**February**	**March**	**April**	**May**	
Receipts from sales	71	81	91	98	(See below)
Cash received	**71**	**81**	**91**	**98**	
Payments:					
Material	40	50	45	35	
Labour	15	13.5	10.5	12	
Variable.overhead	12	15	13.5	10.5	
Fixed overhead	20	20	20	20	
Cash paid	**87**	**98.5**	**89**	**77.5**	
Net cash flow	(16)	(17.5)	2	20.5	
Opening Balance	25.5	9.5	(8)	(6)	
Closing Balance	**9.5**	**(8)**	**(6)**	**14.5**	

Workings: Sales – cash receipts

£000	February	March	April	May
Current month	8	9	10	8
Previous month	63	72	81	90
Total	71	81	91	98

(10 marks)

(b)

	£	**£**
Raw material stock	8,000	
Finished goods stock	8,000	
Debtors	72,000	
Cash	14,500	
		102,500
Raw material creditors	40,000	
Variable overhead	12,000	
Fixed overhead	20,000	
		72,000
Working capital		**£30,500**

(6 marks)

QUESTION 3 CONTINUED

(c) Current Ratio — Current Assets / Current Liabilities = 102,500 / 72,000 = **1.42:1** (2 marks)

Acid Test — Current Assets - Stock / Current Liabilities = 86,500 / 72,000 = **1.20:1** (2 marks)

QUESTION 4

		£
Material A	(10,000 – 3000)	7,000
Material B		20,000
Material C		35,000
Operator	(50 weeks x £100)	5,000
Labourer		15,000
Supervisor	(35000 – 33000)	2,000
Machinery	(8000 - 2000)	6,000
Variable Overhead		2,000
		92,000
Contract Price		125,000
Incremental Profit		**£33,000**

On the above figures the company should accept the offer.

(15 marks)

(d) Future costs and revenues should be considered
Expenditure that has already been spent is irrelevant and should be disregarded
Only incremental or differential costs i.e. those which will be changed by the decision should be considered
Costs which are common to all alternatives should be disregarded
Overhead absorption rates are irrelevant.

(5 marks)

QUESTION 5

(a)

			£
Material			
Price Variance	Actual price x actual usage		259,000
	Standard price x actual usage	(1.5x185,000)	277,500
			18,500 fav
Usage Variance	Standard price x actual usage		277,500
	Standard price x standard usage	(1.5 x 30 x 5,800)	261,000
			16,500 adv
Labour			
Rate Variance	Actual rate x actual hours		319,000
	Standard rate x actual hours	(6 x 57,000)	342,000
			23,000 fav
Efficiency Variance	Standard rate x actual hours		342,000
	Standard rate x standard hours	(10 x 6 x 5,800)	348,000
			6,000 **fav**
Overhead			
Expenditure Variance	Actual		590 000
	Budget		600,000
			10,000 fav
Volume Variance	Budget		600,000
	Actual usage x standard rate		580,000
			20,000 adv

(9 marks)

(b)

		£	£
Standard costs	5,800 units x £205 per unit		1,189,000
Variances			
Material price		18,500 fav	
Material usage		16,500 adv	2,000 fav
Labour rate		23,000 fav	
Labour efficiency		6,000 fav	29,000 fav
Fixed overhead expenditure		10,000 fav	
Fixed overhead volume		20,000 adv	10,000 adv
			21,000 fav
Actual Costs	Material	259,000	
	Labour	319,000	
	Overhead	590,000	1,168,000

(5 marks)

QUESTION 5 CONTINUED

(c) Capacity Ratio — Actual hours / Budgeted hours = 57,000 / 60000 = **95%**

Efficiency Ratio — Standard hours / Actual hours = 58,000 / 57,000 = **101.75%**

Activity Ratio — Standard hours / Budgeted hours = 58,000 / 60,000 = **96.67%**

(6 marks)

