

Example

P V C College teaches its accountancy subjects wholly through correspondence. This is done by the production of self study packs which enables students to prepare for professional qualifications.

Each course of study was sold at the price of £22.50 last year and a total of 20,000 were produced and sold. The production costs of the various courses offered by the college are the same.

The variable cost of producing a study course last year was:

	£
Direct materials	7.50
Direct labour	9.00
Other direct costs (mainly postage)	0.90
Variable overheads	0.60

The fixed overhead for the college during the year was £40,000.

During the coming year the costs of the organisation are expected to increase by the following:

	%
Direct materials	20.00
Direct labour	16.67
Other direct costs	67.00
Variable overheads	25.00
Fixed overheads	5.00

Market research has shown that when the company increases the price of its courses to its students, as long as the increase is kept below 17.5% this is unlikely to have an effect on the number of courses sold. However, for every 1% prices are raised above a 17.5% increase, the number of units sold can be expected to fall by 2%.

- Find the selling price of the study courses if the number of study courses sold and the annual profits are to remain as before.
- Find the number of units that the organisation would have to sell if it did not change the price charged but maintained the profit level attained in the previous year.
- Give a brief analysis of a situation where, when prices are changed the number of units sold is affected. The data provided in the above can be used to illustrate your answer.

9.31 Intermediate: Deletion of a product

Blackarm Ltd makes three products and is reviewing the profitability of its product line. You are given the following budgeted data about the firm for the coming year.

Product	A	B	C
Sales (in units)	100 000	120 000	80 000
	(£)	(£)	(£)
Revenue	1 500 000	1 440 000	880 000
Costs:			
Material	500 000	480 000	240 000
Labour	400 000	320 000	160 000
Overhead	<u>650 000</u>	<u>600 000</u>	<u>360 000</u>
	1 550 000	1 400 000	760 000
Profit/(Loss)	(50 000)	40 000	120 000

The company is concerned about the loss on product A. It is considering ceasing production of it and switching the spare capacity of 100 000 units to Product C.

You are told:

- (i) All production is sold.
- (ii) 25% of the labour cost for each product is fixed in nature.
- (iii) Fixed administration overheads of £900 000 in total have been apportioned to each product on the basis of units sold and are included in the overhead costs above. All other overhead costs are variable in nature.
- (iv) Ceasing production of product A would eliminate the fixed labour charge associated with it and one-sixth of the fixed administration overhead apportioned to product A.
- (v) Increasing the production of product C by 100 000 units would mean that the fixed labour cost associated with product C would double, the variable labour cost would rise by 20% and its selling price would have to be decreased by £1.50 in order to achieve the increased sales.

Required:

- (a) Prepare a marginal cost statement for a unit of each product on the basis of:
 - (i) the original budget;
 - (ii) if product A is deleted.

(12 marks)

- 5 The managers of Albion plc are reviewing the operations of the company with a view to making operational decisions for the next month. Details of some of the products manufactured by the company are given below.

Product	AR2	GL3	HT4	XY5
Selling price (£/unit)	21.00	28.50	27.30	
Material R2 (kg/unit)	2.0	3.0	3.0	
Material R3 (kg/unit)	2.0	2.2	1.6	3.0
Direct labour (hours/unit)	0.6	1.2	1.5	1.7
Variable production overheads (£/unit)	1.10	1.30	1.10	1.40
Fixed production overheads (£/unit)	1.50	1.60	1.70	1.40
Expected demand for next month (units)	950	1,000	900	

Products AR2, GL3 and HT4 are sold to customers of Albion plc, while Product XY5 is a component that is used in the manufacture of other products. Albion plc manufactures a wide range of products in addition to those detailed above.

Material R2, which is not used in any other of Albion's products, is expected to be in short supply in the next month because of industrial action at a major producer of the material. Albion plc has just received a delivery of 5,500 kg of Material R2 and this is expected to be the amount held in stock at the start of the next month. The company does not expect to be able to obtain further supplies of Material R2 unless it pays a premium price. The normal market price is £2.50 per kg.

Material R3 is available at a price of £2.00 per kg and Albion plc does not expect any problems in securing supplies of this material. Direct labour is paid at a rate of £4.00 per hour.

Folam Limited has recently approached Albion plc with an offer to supply a substitute for Product XY5 at a price of £10.20 per unit. Albion plc would need to pay an annual fee of £50,000 for the right to use this patented substitute.

Required:

- Determine the optimum production schedule for Products AR2, GL3 and HT4 for the next month, on the assumption that additional supplies of Material R2 are not purchased. (8 marks)
- If Albion plc decides to purchase further supplies of Material R2 to meet demand for Products AR2, GL3 and HT4, what should be the maximum price per kg that the company is prepared to pay? (3 marks)
- Discuss whether Albion plc should manufacture Product XY5 or buy the substitute offered by Folam Limited. Your answer must be supported by appropriate calculations. (7 marks)
- Discuss the limitations of marginal costing (variable costing) as a basis for making short-term decisions. (7 marks)

(25 marks)