

SPECIAL REQUIREMENTS : GRAPH PAPER

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## QUESTION 1

A company that began operations in January, 2013, set up the following flexible budget for its single product:

|  | 150,000 units | 200,000 units |
| :---: | :---: | :---: |
| Sales revenue | E1,200,000 | E1,600,000 |
| Manufacturing costs: |  |  |
| Nonvariable | E 200,000 | E 200,000 |
| Variable | 450 | E 600 |
| Selling and other expenses: |  |  |
| Nonvariable | E 160,000 | E 160,000 |
| Variable | E 300 | E 400 |
|  | E 1,110,000 | E 1,360,000 |
| Net income | E 90,000 | E 240,000 |

Standard capacity of 200,000 units is used in allocating non-variable manufacturing costs.
During the first yea, it is expected that 180,000 units will be manufactured and that 160,000 units will be sold.

## Required:

a) Determine the net income (loss) budgeted for the year under

1) Absorption costing and
2) Direct costing
b) Determine the value of the inventory expected at the end of the year under
3) Absorption costing and
4) Direct costing

Variances are closed to the income account at year end.
Total ( 25 Marks)

## QUESTION 2

Fair Winds Company manufactures portable hair dryers. The president, Red Murphy, is planning some changes and has enlisted your assistance to predict the potential effects. "Skinhead Red", as he is known around the plant, provides you with the following information:

Variable costs to produce each dryer:
Direct materials E4.60

Direct labour 3.25
Variable production overhead $\quad 2.15$
Total variable production cost E10,00
Annual fixed production overhead E300,000
Annual fixed selling costs $\quad 240,000$
Annual fixed general and admin costs $\quad 120,000$

## Other variable costs are as follows:

Average variable selling costs per unit E1.15
Average variable general \& admin cost per unit E0.75

The selling price is E23.50 per hair dryer and sales volume for the current year is expected to be 150,000 units.

## Following are three independent charges that Red has been thinking of adopting:

1. The engineers tell Red that if a radio headset were added to each unit at a cost of E3.60 the company's product would be superior to the competitor's that business would increase $20 \%$.
2. The sales manager tells Red that a E130, 000 increase in a advertising will increase sales by $15 \%$
3. Red's sales force believes that lowering the price by $5 \%$ will increase demand (in units) by 10\%

## REQUIRED:

a) Compute the break-even point in units and Emalangeni
(5 Marks)
b) Compute the margin of safety in
i) monetary values and
ii) units
(8 Marks)
c) Compute the effects on profit and Emalangeni breakeven point of each of the independent propositions (ignore tax implications).
For each, advise the President about the effects of the proposal
(12 Marks)

## QUESTION 3

A. Zenzele Ltd manufactures an electronic device in two models: Super and Deluxe. Marginal contributions per unit are: Super E30; Deluxe E40. Sales forecasts indicate that no more than seven (7) of the Deluxe models can be sold in any one period; all of the Super models which can be produced can be sold. The manufacturing process involves three operations: basic unit, assembly and finishing. The hours required for each model and the total hours available for each operation are as follows:

|  | Hours required |  | Total hours |
| :--- | :--- | :--- | :--- |
| Operation | Super | Deluxe | available |
| Basic unit | 4 | 5 | 60 |
| Assembly | 1 | 2 | 16 |
| Finishing | 1 | 1 | 13 |

## Required:

i) Using the graphic approach, determine the product mix that maximizes profits. (7 Marks)
ii) Determine the maximum contribution
B. Thabile and Deli Ltd manufactures two drills: Alpha and Omega. Each unit of Alpha takes 30 hours of production time and each unit of Omega takes 5 hours. All told, 120 hours of production time are available per day. All the units of Omega that are produced can be sold; but, because of limited demand, at most 3 units of Alpha can be sold a day. Alpha sells for E30 per unit and Omega sells for E15 per unit. The variable cost per unit, including the cost of production and selling, are E20 for Alpha and E9 for Omega.

## Required:

i) Using the graphic approach, determine the production schedule that maximizes daily profit
ii) What is the maximum profit?

## QUESTION 4

Western Company wants guidance on the advisability of dropping Product $C$, one of the company's several products, since it showed a lost during the past year. The loss on Product C was determined as follows:

| 这 | E | E |
| :---: | :---: | :---: |
| Sales revenue |  | 350,000 |
| Cost of sales: |  |  |
| Raw material | 80,000 |  |
| Variable direct labour | 150,000 |  |
| Factory overhead | 61,500 | $\underline{291.500}$ |
| Gross margin on sales |  | E58,500 |
| Selling and admin expenses: |  |  |
| Commissions on sales | 15,000 |  |
| Salaries \& wages (nonvariable) | 15,800 |  |
| Fringe benefits | 4,620 |  |
| Direct advertising | 26,000 |  |
| Other expenses (nonvariable) | 20,630 | 82,050 |
| Loss |  | E23,550 |
| Factory overhead is made up of the following: |  |  |
| Indirect labour ( nonvariable) | 18,000 |  |
| Royalties - $1 \%$ of sales | 3,500 |  |
| Fringe benefits | 25,200 |  |
| Depreciation (straight line) | 7,100 |  |
| Other costs: |  |  |
| Nonvariable | 2,000 |  |
| Variable | 5,700 |  |
|  | E61,500 |  |

Non variable costs not traceable to products, have been allocated to the products. The only change expected on the elimination of the Product $C$ is a reduction of E4,000 in indirect labour. Fringe benefits average 15 percent of payroll.

## Required:

Revise the statement given above to give the company a better evaluation of the profitability of Product C.

