

TU814/4

9339 TMGT 4002

TECHNOLOGICAL UNIVERSITY DUBLIN

BOLTON STREET CAMPUS

**BACHELOR OF SCIENCE (HONOURS) IN TRANSPORT
OPERATIONS AND TECHNOLOGY**

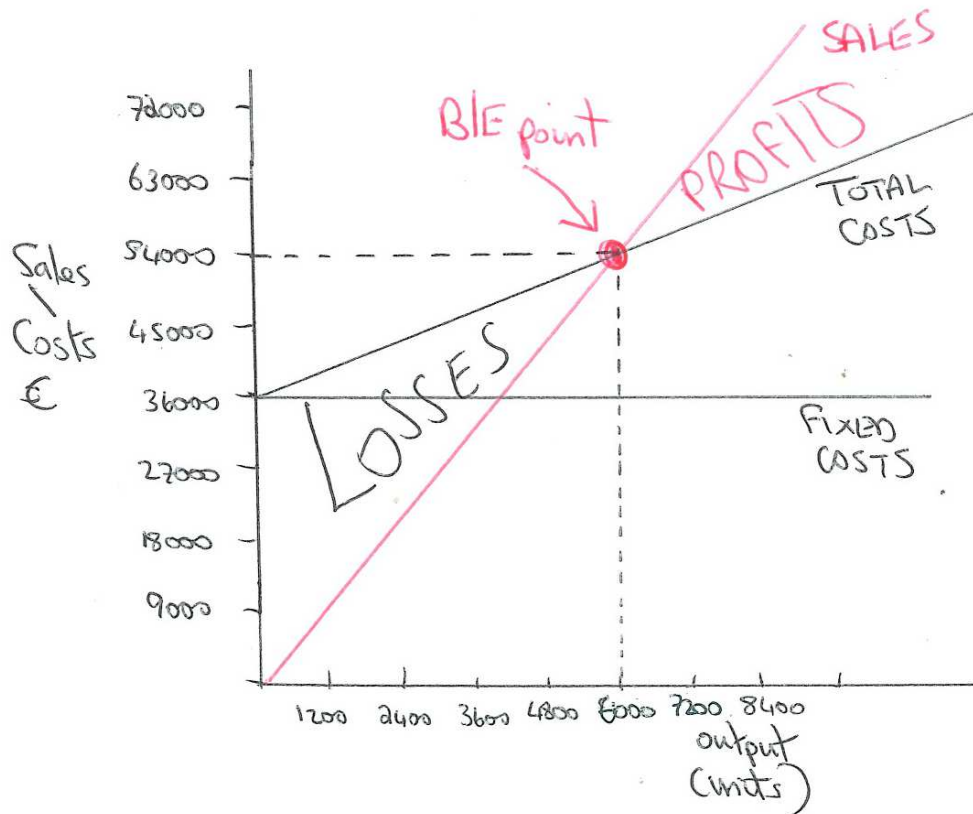
FOURTH YEAR: SEMESTER 1 – JANUARY 2024

MANAGEMENT 4 (FINANCIAL MANAGEMENT)

OUTLINE SOLUTIONS

QUESTION 1: BREAKEVEN ANALYSIS:

a. Breakeven Chart: B/E point – output 6000 units, Sales €54000.



10 marks

b. Formula:

$$Q = \frac{FC + P}{S - V}$$

Set $Q = 8000$ units

$$8000 = \frac{36000 + P}{9 - 3}$$

$$48000 = 36000 + P$$

$$€12000 = P$$

5 marks

c. Formula

$$Q = \frac{FC + P}{S - V}$$

Set P = 0; Set V = €5

$$Q = \frac{36000 + 0}{9-5}$$

$$Q = \frac{36000}{4}$$

$$Q = 9000 \text{ UNITS}$$

5 marks

d. Contribution: is the amount of fixed costs recovered by producing and selling one unit of output. It is the difference between selling price and unit variable cost.

5 marks

QUESTION 2 BUDGETARY CONTROL

A. PRODUCTION BUDGET

| Month | Feb (units) | Mar (units) | April (units) | May (units) |
|-------------------------|----------------|----------------|------------------|----------------|
| Sales Budget | 16400 | 18800 | 22600 | 24200 |
| Less opening Stock | -4400 | -5640 | -6780 | |
| | 12000 | 13160 | 15820 | |
| add Target ending stock | 5640 | 6780 | 7260 | |
| Required Production | 17640 | 19940 | 23080 | (13 Marks) |

B. OBJECTIVES OF BUDGETARY CONTROL:

- to plan and control income and expenditure
 - to direct capital expenditure in most profitable direction
 - to provide a yardstick against which actual results are compared
 - to determine the impact on the budget when unforeseen events occur
 - to motivate staff by setting achievable targets.
 - to identify adverse trends and make corrections (“management by exception” principle).
- (12 Marks)

QUESTION 3: WORKSHOP EFFICIENCY COMPUTATION / MEASUREMENT

Part A:

ASSIGNED GENERAL OVERHEAD:

| | | |
|--------------------|---------------|--------------|
| Administration | 30000 x 40% = | 12000 |
| Light & Heat | 12000 x 40% = | 4800 |
| General Insurances | 24000 x 40% = | 9600 |
| Rates | 8000 x 40% = | 3200 |
| Annual Rent | 28000 x 40% = | 11200 |
| | | <u>40800</u> |

SPECIFIC WORKSHOP COSTS

| | |
|------------------------------|--------------|
| Mechanics' Wages (4 @ 36000) | 144000 |
| Manager | 50000 |
| Repairs | 4000 |
| Materials | 12000 |
| Equipment Leasing | <u>16000</u> |

| | |
|-------------------------|---------------|
| TOTAL WORKSHOP COSTS | 266800 |
| REQUIRED PROFIT AT 20% | <u>53360</u> |
| REQUIRED WORKSHOP SALES | <u>320160</u> |

- Required no. of chargeable labour hours = $320160 / \text{€}60 = 5336$ hours
- No. of labour hours available = $4 \text{ mechanics} \times 39 \text{ hours} \times [52 - 4 - 2] \text{ weeks} = 7176$ hours
- Required workshop efficiency = $(5336 / 7176) \times 100 = 74\%$.

20 marks

Part B: General Overheads:

These are overheads that are incurred on behalf of the whole of the enterprise and are not directly traceable to any single department or profit centre. They are therefore not avoided by closing down the operations of a department or sub unit.

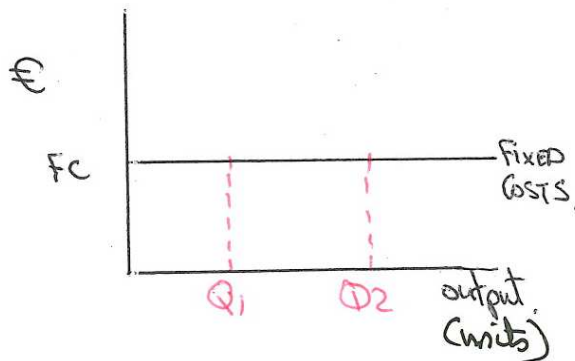
It is normal to apportion these overheads on a predetermined basis to the user departments on a reasonable and fair manner e.g. as % of floor area occupied or as % of employees engaged.

5 marks

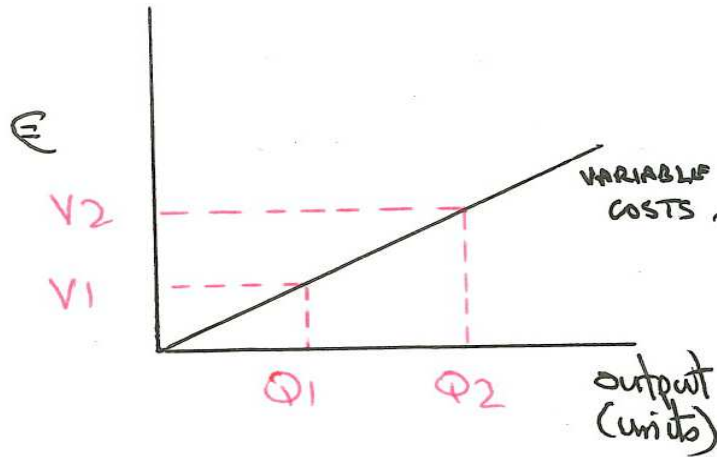
QUESTION 4:

- a) Features of CREDIT CONTROL to include:
- Good documentation flow over each stage of a sales transactions to avoid disputes with customers
 - Formal assessment of potential customers for credit worthiness by means of credit rating agency report, review of most recent accounts filed in Companies Office, provide trade references.
 - Maintenance of a timely and reliable Sales Ledger system.
 - Regular review of age listing of balances for correctness and identification of non compliance with credit terms.
 - Revise regularly credit terms and limits based on customer performance.
 - Review of accounts for consistency in Debtors Days and Bad Debts % ratios as means of benchmarking performance of credit control department. (12 marks)

- b) **FIXED COSTS:** are costs which tend not to be affected by variations in the level of output. Known as "period Costs". Examples are monthly lease payments, annual insurances, annual rates, quarterly rents. When graphed:



VARIABLE COSTS: are costs that directly vary with fluctuations in the level of output.
Examples include materials, distribution, packaging etc. When graphed:



(6 marks)

- c. **ASSUMPTIONS OF BREAKEVEN ANALYSIS:** output the only factor affecting costs – all costs can be classified as either fixed or variable – only one type of product is produced – selling price remains constant over entire range – variable cost per unit remains constant over the entire range – all production is sold – there are no opening or closing stocks. (7 marks)

QUESTION 5: BUSINESS PURCHASE DECISION:

PART A: **GROSS MARGIN:** for trading companies, profit is arrived at in 2 stages. First stage is to determine the Gross or Trading Profit. When Gross Profit is expressed as a % of sales, this figure is known as “Gross Margin”. This can then be compared with previous years or with known industry norms. Any deviation should be investigated and explained.

Known margins in key sectors are:

- Motor Factors 50% - 60%
- Forecourt Sales (fuels) 5%
- Freight Forwarding 15%
- Travel Agency 10% to 12%

Competitive factors can cause a decline in gross margin. But also, a decline that is not expected can be due to theft or other defalcations due to poor controls especially over custody of stocks and recording of sales in a cash business. (10 marks)

PART B: DECISION:

DETERMINE GROSS MARGIN NECESSARY FROM CONDUCT OF THE BUSINESS:

ANNUAL COSTS TO RECOVER:

| | |
|-------------------------|---------------|
| Light & Heat | 6000 |
| Telephone and Postage | 2000 |
| Printing Stationery | 2000 |
| Insurances | 16000 |
| Repairs and Maintenance | 12000 |
| Rent & Rates | 80000 |
| Wages (2 persons) | 62000 |
| TOTAL | 180000 |

LOAN COMMITMENTS PER ANNUM

12 payments @ €4500 per month = **€54000**

REQUIRED PERSONAL INCOME PER ANNUM **€80000**

| | |
|--------------------------------------------------------|--------|
| TOTAL GROSS PROFIT REQUIRED = 180000 + 54000 + 80000 = | 314000 |
| GROSS MARGIN FOR THE SECTOR | 40% |
| REQUIRED ANNUAL SALES = 314000 / .40 = | 785000 |
| SALES CERTIFIED BY ESTATE AGENT | 820000 |

As the certified sales well exceed the required sales, then Jonathon should proceed to purchase the business.

(15 marks)

QUESTION 6 – VALUATION OF AN UNQUOTED / PRIVATE LIMITED COMPANY

a. COMPUTATION OF RATIOS:

| FORMULA | COMPUTATION |
|--------------------------------------------------------|-----------------------------------------------|
| Gearing Ratio: (debt / debt + equity) x100 | $(340000 / 570000) \times 100 = 60\%$ |
| ROCE: (PBIT / debt + equity) x 100 | $(71000 / 570000) \times 100 = 12\%$ |
| Interest cover: (PBIT / Interest) = times | $71000 / 12000 = 5.9 \text{ times}$ |
| Earnings Per Share: (Profit after tax / no. of shares) | $52000 / 1000 = \text{€}52 \text{ per share}$ |

(12 marks)

b. VALUATION OF COMPANY:

| | |
|--------------------------------------------|-----------------|
| VALUE OF THE TRADE / BUSINESS: | |
| EPS x Price/Earnings x No. Shares in issue | |
| €52 x 6 x 1000 shares = | 312,000 |
| NON TRADE ASSETS | |
| Property etc | 460,000 |
| Less loans on property | <u>-340,000</u> |
| Equity | 120,000 |
| + Undistributed Bank and Cash | <u>158,000</u> |
| Value of non trade assets | <u>278,000</u> |
| TOTAL VALUE OF COMPANY | <u>590,000</u> |
| VALUE OF 50% INTEREST 590000 X 50% = | 295,000 |

As offer price of €320,000 exceeds the value as computed, Miriam should accept Peter's proposal.

(13 marks)