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# TECHNOLOGICAL UNIVERSITY DUBLIN

**CITY CAMPUS - BOLTON STREET**

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## TU814 – Sustainable Transport Management

**Year 3**

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SEMESTER 1
EXAMINATIONS 2024/25

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## Financial Management 2

OUTLINE SOLUTIONS

QUESTION 1: WORKSHOP EFFICIENCY COMPUTATION / MEASUREMENT

Part A:

| | | |
|---|---|---|
| ASSIGNED GENERAL OVERHEAD: | | |
| Rent | 18000 x 50% = | 9000 |
| Rates | 10000x 50% = | 5000 |
| Light & Heat | 13000 x 50% = | 6500 |
| Administation | 50000 x 60% = | 30000 |
| | | |
| SPECIFIC WORKSHOP COSTS | | |
| Mechanics' Wages (4 @ 32000) | | 128000 |
| Superviser | | 50000 |
| Depreciation | | 8000 |
| | | |
| TOTAL WORKSHOP COSTS | | 236500 |
| REQUIRED PROFIT AT 20% | | 47300 |
| REQUIRED WORKSHOP SALES | | 283800 |

- Required no. of chargeable labour hours = 283800 / €55 = 5160 hours
- No.of labour hours available = 4 mechanics x 39 hours x [52 – 4 – 2] weeks = 7176 hours
- Required workshop efficiency = (5160 / 7176) x 100 = 72%.

20 marks

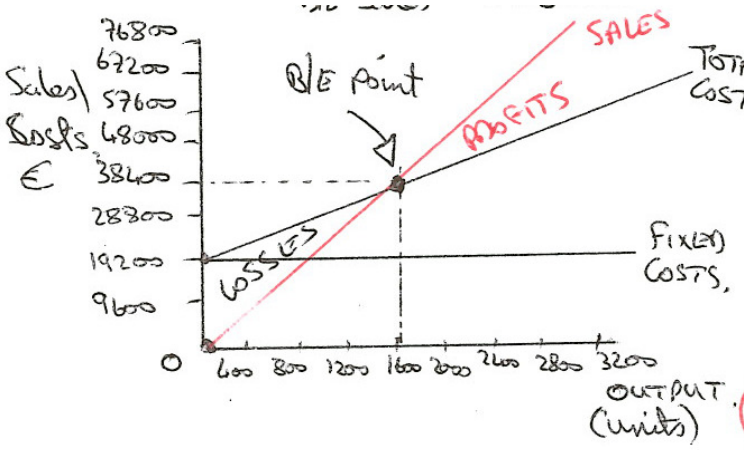
Part B: General Overheads:
These are overheads that are incurred on behalf of the wholeof the enterprise and are not directly traceable to any single department or profit centre. They are therefore not avoided by closing down the operations of a department or sub unit.

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 2: BREAKEVEN ANALYSIS:

a. Breakeven Chart: B/E point – output 1600 units, Sales €38400.




6 marks

b. Formula:

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

Set Q = 2200 units

$$2200 = \frac{19200 + P}{24-12}$$

$$26400 = 19200 + P$$

€7200 = P

5 marks

c. Formula

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

Set P = 0; FC = 22080

$$Q = \frac{22080 + 0}{24-12}$$

$$Q = \frac{22080}{12}$$

Q = 1840 units

5 marks

d. Formula

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

Set S = 32; Q = 2000 units

$$2000 = \frac{19200 + P}{32-12}$$

$$2000 = \frac{19200 + P}{20}$$

€40000 = 19200 + P
€20800 = P

5 marks

e. 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.

4 marks

QUESTION 5 – MULITPLE CHOICE:

A. CREDIT CONTROL: Features:
   - 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. (12½ 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.

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

(12½ marks)

C. CAPITAL GEARING: A measure of the extent of the use of debt to fund a company's operations relative to the total souces of long term finance (debt as % of debit + equity).

RISK RETURN FACTOR from high gearing / debt: Return arises where funds borrowed are used to earn a return in excess of interest cost. Reflected by high EPS and reasonable Interest Cover. Risk arises when the rate of return doesn't exceed the cost of debt. Result is negative EPS and interest cover of less than 1.

(12½ marks)

D. WORKSHOP EFFICIENCY: a measure of the extent to which labout hours employed in a workshop are billed out on jobs to customers. Typically, this computes at around 70% which means that for every 100 hours of time worked by employees, 70 is traceable and billable to jobs.

(12½ marks)

QUESTION 5: BUDGETARY CONTROL:

a) MATERIAL PURCHASES BUDGET

| Month | June<br>€ | July<br>€ | August<br>€ | Sept.<br>€ |
|---|---|---|---|---|
| Material Cost of production | 496000 | 560000 | 608000 | 46400<br>0 |
| Less opening Stock | -290000 | -336000 | -364800 | |
| | 206000 | 224000 | 243200 | |
| add Target ending stock | 336000 | 364800 | 278400 | |
| Required Purchases | 542000 | 588800 | 521600 | (12 Marks) |

(15 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).

(10 marks)

QUESTION 6: GROSS MARGIN – USE IN BUSINESS PURCHASE DECISION

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)

b. GROSS MARGIN NECESSARY FROM CONDUCT OF THE BUSINESS:

ANNUAL COSTS TO RECOVER:

| | |
|---|---|
| Light & Heat | 3200 |
| Telephone and Postage | 2200 |
| Printing Stationery | 1600 |
| Insurances | 5200 |
| Wages | 35000 |
| Repairs | 2000 |
| Rent Rates | 22000 |
| TOTAL | 71200 |

LOAN COMMITMENTS PER ANNUM

12 payments @ €1180 per month = €14160

REQUIRED PERSONAL INCOME PER ANNUM €40000

| | |
|---|---|
| TOTAL GROSS MARGIN REQUIRED = 71200 + 14160 +40000 = | 125360 |
| GROSS MARGIN FOR THE SECTOR | 40% |
| REQUIRED ANNUAL SALES = 125360 / .40 = | 313400 |
| SALES CERTIFIED BY AUCTIONEER | 340000 |

As the certified sales exceeds the required sales, then Paul should proceed to purchase the business.

(15 marks)

QUESTION 7 – VALUATION OF AN UNQUOTED / PRIVATE LIMITED COMPANY:

a. COMPUTATION OF RATIOS:

| FORMULA | COMPUTATION |
|---|---|
| Gearing Ratio: (debt / debt + equity) x100 | (280000 / 720000) x100 = 38.8% |
| Interest cover: (PBIT / Interest) = times | 320000 / 18000 = 17.7 times |
| Earnings Per Share: (Profit after tax / no. of shares) | 262000 / 10000 = €26.20 per share |

(9 marks)

b. VALUATION OF COMPANY:

| | | |
|---|---|---|
| VALUE OF THE TRADE / BUSINESS: | | |
| EPS x Price/Earnings x No. Shares in issue | | |
| €26.20 x 5.8 x 10000 shares = | | 1519600 |
| | | |
| NON TRADE ASSETS | | |
| Property etc | 560000 | |
| Less loans on property | -280000 | |
| Equity | 280000 | |
| + Undistributed Bank and Cash | 158000 | |
| Value of non trade assets | | 438000 |
| | | |
| TOTAL VALUE OF COMPANY | | 1957600 |

As offer price of €2.2 million exceeds the value of the company as computed, the directors should proceed to sell as proposed.

(16 marks)