**AFB MOCK EXAM WITH SUGGESTED ANSWERS**

**ANSWER QUESTION 1 [for 40 marks] from Section A and any 2 questions from Section B [30 marks each]**

**Section A**

**Question 1:**

The following trial balance is for ME1 Ltd. for the year ended 30/06/2022:

|  |  |  |
| --- | --- | --- |
|  | £000 | £000 |
| Inventory | 70 |  |
| Purchases & Sales | 1200 | 1934 |
| Rates & insurance | 21 |  |
| Administration expenses | 40 |  |
| Selling expenses | 56 |  |
| Wages & salaries | 170 |  |
| Utilities | 32 |  |
| Audit fee | 12 |  |
| Bad debt | 3 |  |
| Directors remuneration | 50 |  |
| Interest on bank loan | 9 |  |
| Debenture interest | 6 |  |
| Premises at cost | 600 |  |
| Motor vehicles at cost | 130 |  |
| Fittings at cost | 120 |  |
| Motor vehicles – accumulated depreciation |  | 30 |
| Fittings – accumulated depreciation |  | 40 |
| Cash | 1 |  |
| Bank | 5 |  |
| Receivable & payables | 100 | 60 |
| £1 Ordinary shares |  | 250 |
| 6% Long term bank loan |  | 150 |
| 7% Debentures |  | 100 |
| Interim dividends paid | 15 |  |
| Retained profit |  | 76 |
| Totals | 2640 | 2640 |

Additional information as at 30/06/ 2022:

* Inventory was valued at £90,000.
* Prepaid rates - £3,000; selling expenses prepaid £6000.
* Accruals for: Wages accrued £1,000; audit fee £2000.
* Motor vehicles to be depreciated by 25% on reducing balance basis.
* Fittings to be depreciated by 20% on straight line basis
* The directors wish to provide £100,000 for taxation.
* The directors propose a dividend of 20p per share.

**Required:**

**a) Income statement for the year ended 30/06/2022 [20 marks]**

**b) Statement of financial position as at 30/06/2022 [20 marks]**

**Suggested answers**

**a)**

**ME 1 Ltd**

**Income statement for the y/e 30/06/2022 [in £000]**

|  |  |  |
| --- | --- | --- |
| Sales |  | 1934 |
| Cost of sales |  |  |
| Opening inventory | 70 |  |
| Purchases | 1200 |  |
| Closing inventory | [90] | [1180] |
| GP |  | 754 |
| Expenses |  |  |
| Rates & insurance [21 – 3] | 18 |  |
| Selling expenses [56 - 6] | 50 |  |
| Wages & salaries [170 +1] | 171 |  |
| Audit fee [12 + 2] | 14 |  |
| Depreciation of MV [130 – 30] x 0.25 | 25 |  |
| Depreciation of fittings [120 x 0.2] | 24 |  |
| Administration expenses | 40 |  |
| Utilities | 32 |  |
| Bad debt | 3 |  |
| Directors remuneration | 50 |  |
| Interest on bank loan | 9 |  |
| Debenture interest [6 + 1] | 7 | [443] |
| PBT |  | 311 |
| CT |  | [100] |
| PAT |  | 211 |
| Dividends – interim   * Final [250 x £0.2] | 15  50 | [65] |
| Retained profit for the year |  | 146 |
| Retained profit b/f |  | 76 |
| Retained profit c/f |  | 222 |

**b)**

**ME1 Ltd**

**SOFP as at 30/06/2022 [in £000]**

|  |  |  |  |
| --- | --- | --- | --- |
| **Non – current assets** | **Cost** | **Accumulated**  **Depreciation** | **NBV** |
| Premises | 600 | -- | 600 |
| Motor vehicles | 130 | 30 + 25 = 55 | 75 |
| Fittings | 120 | 40 + 24 = 64 | 56 |
|  | 250 | 119 | 731 |
| **Current assets** |  |  |  |
| Inventory | 90 |  |  |
| Receivables | 100 |  |  |
| Prepayments [3 + 6] | 9 |  |  |
| Bank | 5 |  |  |
| Cash | 1 |  | 205 |
| **Total assets** |  |  | 936 |
|  |  |  |  |
| **Share capital** |  |  |  |
| £1 Ordinary shares |  |  | 250 |
| **Reserves** |  |  |  |
| Retained profit |  |  | 222 |
| Shareholders’ funds |  |  | 472 |
| **Non-current liabilities** |  |  |  |
| 6% Long term bank loan | 150 |  |  |
| 7% Debentures | 100 |  | 250 |
| **Current liabilities** |  |  |  |
| Accruals [1 + 2 + 1] | 4 |  |  |
| Payables | 60 |  |  |
| CT | 100 |  |  |
| Dividends | 50 |  | 214 |
| **Shareholders’ funds & liabilities** |  |  | **936** |

**Section B**

**Question 2**

The following information relate to 2 mutually exclusive projects, A and B.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Project A (net cash flows in £000) | (900) | 250 | 350 | 400 | 300 | 325 | 250 |
| Project B (net cash flows in £000) | (1000) | 300 | 300 | 300 | 300 | 300 | -- |

Residual value of project A’s assets is expected to realise £150,000 in year 6

The company requires a payback of 3 years and its cost of capital is 10%.

Discount & annuity factors @ 10%:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | 1 | 2 | 3 | 4 | 5 | 6 |
| Discount factors | 0.909 | 0.826 | 0.751 | 0.683 | 0.621 | 0.564 |
| Annuity factors | 0.909 | 1.736 | 2.487 | 3.170 | 3.791 | 4.355 |

**Required:**

**a) Payback period and NPV for both projects A and B. [14 marks]**

**b) Rank the projects for both methods. [4 marks]**

**c) Which project would you recommend and explain the basis of your**

**recommendation. [8 marks]**

**d) List 4 other factors that may require consideration. [4 marks]**

**Suggested answers**

**a)**

Payback for Project A

Cumulative cash flow for Year 2: £600,000

Cumulative cash flow for Year 3 = £1,000,000

Payback is between years 2 and 3

Payback 2 + [300,000 / 400,000] = 2.75 years

Payback for Project B

Payback = £1,000,000 / £300,000 = 3.33years

NPV @ 10% in £000s

Project A:

250 x 0.909 + 350 x 0.826 + 400 x 0.751 + 300 x 0.683 + 325 x 0.621 + [250 + 150] x 0.564 – 900 = 1449.075 – 900 = 549.075

NPV @ 10% = £549,075

Project B: 300 x 3.791 – 1000 = 1137.3 – 1000 = 137.**3**

NPV @ 10% = £137,300

**b) Project rankings**

|  |  |  |
| --- | --- | --- |
| **Project** | **A** | **B** |
| Payback | 1 | --- |
| NPV @ 10% | 1 | 2 |

**c)**

All investment decisions may use any DCF method [NPV or IRR] since both methods consider time value of money and in addition consider all the projects cash flows. Non-DCF methods like payback ignore both of the above.

So, the DCF methods may be used as the main method of selection while the non-DCF methods may be used in support as an secondary/additional method of selection.

Based on these, Project A is recommended since it has the higher NPV @10%. This will ensure that both the value of the company and the shareholders’ wealth are increased by a higher amount when compared to that of Project B. In addition, the payback is within management’s criteria of 3 years. This recommendation ignores other factors stated in (d).

**d)**

**Other factors to consider before a final decision is made [any 4 of these may be sufficient]:**

* Incremental taxation resulting from project’s economic profit may affect [reduce] a project’s NPV.
* Any government grant, tax and other incentives on offer specifically to these projects.
* Inflation over the years of the project’s cashflows require attention.
* Impact of the cashflows of existing products/services.
* Reaction of competitors within the industry.
* Legal obligations that may affect the project’s viability e.g. health and safety legislation, discrimination law, consumer law and employment law. Be aware of legal changes to avoid breaking the law, which could result in fines, damage to their reputation or even closure.
* Accuracy and completeness of the cashflows.
* Environmental considerations /issues e.g. on weather and climate; awareness of human impact of carbon emissions. Consider the increasing customer awareness and focus on sustainability and environmental issues.
* Industrial relations – does it involve automation/digital technology; may lead to potential redundancies, thus affecting the morale of the workforce as well as management.
* Any retraining of employees/management required as a result of changes in existing practices?
* Ethics – sometimes the most ethical way is not always the cheapest.
* Culture – investment decisions may affect the norms of the company.

**Question 3**

ME2 Ltd is planning to introduce a new coffee machine. Details are:

|  |  |
| --- | --- |
| Variable costs per unit | £60 |
| Annual fixed costs | £9,000,000 |
| Selling price per unit | £100 |
| Budgeted production and sales | 400,000 units |
| Maximum output (relevant range) | 1,000,000 units |

**Required:**

**a) Budgeted profit. [4 marks]**

**b) Margin of safety [3 marks]**

**c) Calculate the sales volume if profit of £8,000,000 can be made by spending**

**an additional £500,000 on promotion. [6 marks]**

**d) Another strategy with the following changes for the new product is**

**being considered:**

* **Spend an additional £5 per unit on improving the packaging.**
* **Selling price to increase by 8% per unit**
* **Sell 500,000 units.**

**Calculate the profit, breakeven point and margin of safety.**

**Comment briefly on this strategy compared to the original budget**

**in (a). [12 marks]**

**e) State the assumptions that affect the above calculations. [5 marks]**

**Suggested answers**

1. Contribution per unit = £ [100 – 60] = £40

Budgeted profit = £40 x 400,000 - £9,000,000 = £16m - £9m = £7m

1. BEP [units] = £9m / £40 = 225,000 units

Margin of safety = 400,000 – 225,000 = 175,000 units

1. Sales volume required = £ (8 + 0.5 +9]m / £40

= £17.5m / £40 = 437,500 units

1. Revised variable costs per unit = £60 + £5 = £65

Revised selling price = £100 x 1.08 = £108

Revised contribution = £108 - £65 = £43

Profit = £43 x 500,000 - £9m = £21.5m - £9m = £12.5m

BEP [units] = £9m / £43 = 209,302.3 = 209,302 units

Margin of safety = 500,000 – 209,302 = 290,698 units

This strategy is better: higher profit, lower breakeven point and higher margin of safety [hence lower business and financial risks]. This does consider other factors affecting the strategy

**Question 3**

You are provided the following for ME3 plc:

**Income statement (extracts) for the year ended 31/12/2022 (in £000s)**

Sales revenue 25,500

Cost of sales 14,800

Expenses 5,450

**Statement of financial position as at 31/12/2022 (in £000s)**

|  |  |
| --- | --- |
| Current assets |  |
| Inventory | 3,600 |
| Trade receivables | 1,200 |
| Bank & cash | 3,200 |
|  |  |
| Current liabilities |  |
| Trade payables | 1,200 |
| Taxation | 3,000 |
| Accruals | 1,000 |

Key financial indicators are available ME3 plc.’s industry for 2022:

|  |  |
| --- | --- |
| Gross profit ratio | 40% |
| Net profit ratio | 18% |
| Current ratio | 2.15:1 |
| Acid test /Quick ratio | 1.1:1 |
| Receivables ratio (days) | 42 |
| Inventory holding (days) | 80 |
| Payables ratio (days) | 32 |

**Required:**

**a) Calculate the equivalent ratios (as above) for ME3 plc. [14 marks]**

**b) Critically discuss the financial performance of ME3 plc compared to that of the industry. [16 marks]**

**a)**

Calculation of equivalent ratios

GP [in £000s] = 25,500 – 14,800 = 10,700

NP [in £000s] = 10,700 – 5,450 = 5250

Current assets = 3,600 + 1,200 + 3,200 = 8,000

Current liabilities = 1,200 + 3,000 + 1.000 = 5,200

|  |  |
| --- | --- |
| Ratio | Formula |
| Gross profit ratio (%) | Gross profit / Sales x 100  [10,700 / 25,500] x100 = 41.96% |
| Net profit ratio (%) | Net profit / Sales x 100  [5250 / 25,500] x 100 = 20.59% |
| Current ratio | Current assets / Current liabilities  8,000 / 5,200 = 1.54 |
| Acid test / Quick ratio | (Current assets – Inventory) /Current liabilities  [8,000 – 3.600] / 5,200 =0.85 |
| Inventory holding (days) | Closing inventory / Cost of sales x 365 days  [3,600 / 14,800] x 365 = 88.78 = 89 days |
| Receivables ratio (days) | Receivables / Sales x 365 days  [1200 / 25,500] x 365 = 17.2 = 17 days |
| Payables ratio (days) | Payables / Cost of sales x 365  [1,200 / 14,800] x 365 = 29.59 = 30 days |

**b) Comparisons between ME3 plc and its industry averages.**

Profitability

Both the GP and the NP ratios are slightly better than the industry averages.

The higher GP ratio for ME3 plc suggests that it may have higher selling prices or lower purchases costs or could be the effects of both of these in comparison to its peers within the industry.

The higher NP ratio for ME3 plc shows it has better control of its expenses compared its peers within the industry.

Liquidity

The current ratio for ME3 is low compared to the industry average as well the norm of 2:1.

The quick ratio of ME3 is comparable to both the industry average as well as the norm of 1:1.

So even though the current ratio is low, the quick ratio indicates that ME3’s liquidity is adequate.

Efficiency

Inventory holding for ME3 is higher by 9 days – the company is taking 9 days more to sell its inventory as compared to its peers within the industry; this may require investigation into its inventory levels and its management.

Receivables days for ME3 is far lower at 17 days compared to the industry average of 42 days. Credit control of receivables appear to better at ME3. However more information on the credit period allowed by ME3 is required to evaluate this.

Payables ratio – both ME3 and its peers within the industry have almost the same payable days. However, the payable days may not be directly comparable as each company within the industry may have different credit terms offered to them by their respective suppliers.

Summary/Recommendations

Inventory management may requireinvestigation into its purchasing policy as well the inventory held by ME3 – are there any obsolete inventory being held? Better management of its inventory can reduce its working capital financing leading to better liquidity and profitability.

**END OF EXAMINATION PAPER**

**[You should have answered Question 1 and any 2 other questions.]**

**-------------------------------------------------------------------------------------------------------------**

**Format for Financial statements**

**Name of company**

**Income statement for the y/e………..**

|  |  |  |
| --- | --- | --- |
| Sales |  |  |
| **Cost of sales** |  |  |
| Opening inventory |  |  |
| Purchases |  |  |
| Closing inventory |  |  |
| **GP** |  |  |
| **Expenses** |  |  |
| ??? |  |  |
| ??? |  |  |
|  |  |  |
|  |  |  |
| **PBT** |  |  |
| CT |  |  |
| **PAT** |  |  |
| Dividends -- Interim  -- Final |  |  |
| Retained profit for the year |  |  |
| Retained profit b/f |  |  |
| Retained profit c/f |  |  |

**Name of company**

**SOFP as at……….**

|  |  |  |  |
| --- | --- | --- | --- |
| **Non - current assets** | **Cost** | **Accumulated**  **Depreciation** | **NBV** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Current assets** |  |  |  |
| Inventory |  |  |  |
| Receivables |  |  |  |
| Prepayments |  |  |  |
| Bank |  |  |  |
| Cash |  |  |  |
| **Total assets** |  |  |  |
|  |  |  |  |
| **Share capital** |  |  |  |
|  |  |  |  |
| **Reserves** |  |  |  |
| Retained profits |  |  |  |
| **Shareholders’ funds** |  |  |  |
|  |  |  |  |
| **Non - current liabilities** |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Current liabilities** |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Shareholders’ funds & liabilities** |  |  |  |

**Financial Ratios & Formulae**

|  |  |
| --- | --- |
| Ratio | Formula |
| Gross profit ratio (%) | Gross profit / Sales x 100 |
| Net profit ratio (%) | Net profit / Sales x 100 |
| Current ratio | Current assets / Current liabilities |
| Acid test / Quick ratio | (Current assets – Inventory) /Current liabilities |
| Inventory holding (days) | Closing inventory / Cost of sales x 365 days |
| Receivables ratio (days) | Receivables / Sales x 365 days |
| Payables ratio (days) | Payables / Cost of sales x 365 |