**ACCOUNTING FOR BUSINESS**

**MOCK EXAM: ANSWER QUESTION 1 AND ANY TWO OTHER QUESTIONS**

**Section A: Compulsory question for 40 marks**

**Question** 1

The following trial balance is for A plc for the y/e 31/12/2021 [in £000s]

|  |  |  |
| --- | --- | --- |
| Inventory as at 1st January 2021 | 250 |  |
| Purchases and Sales | 600 | 1200 |
| Selling expenses | 20 |  |
| Receivables and payables | 90 | 75 |
| Distribution costs | 30 |  |
| Rent & rates | 30 |  |
| Insurance | 9 |  |
| Salaries & wages | 90 |  |
| Directors’ remuneration | 45 |  |
| Advertising | 20 |  |
| Energy costs | 25 |  |
| Audit fee | 10 |  |
| Bad debt | 3 |  |
| Interest on bank loan | 8 |  |
| 8% Long term bank loan |  | 100 |
| Debenture interest | 10 |  |
| 12% Debentures |  | 100 |
| Share premium |  | 100 |
| Retained profits |  | 90 |
| Premises at cost | 650 |  |
| Vehicles at cost | 130 |  |
| Vehicles – accumulated depreciation |  | 30 |
| Fixtures & fittings at cost | 100 |  |
| Fixtures & fittings – accumulated depreciation |  | 60 |
| £1 Ordinary shares |  | 400 |
| Cash | 3 |  |
| Bank | 7 |  |
| Interim ordinary dividend | 25 |  |
| Totals | 2155 | 2155 |

**Additional information as at 31/12/2021**:

* Inventory was valued at £150,000.
* Prepayments for: Rent £4000; selling expenses £2000; Advertising £3000
* Accruals for: Insurance £1000; Rates £1000; Energy costs £1000; Audit fee £2000
* The vehicles to be depreciated by 25% on reducing balance
* The fixtures & fittings to be depreciated by 30% on straight line.
* The directors wish to provide £60,000 for taxation.
* The directors propose a final ordinary dividend of 9p per share.

**Required:**

**a) Income Statement for the year ended 31/12/2021. [20 marks]**

**b) Statement of Financial Position as at 31/12/2021. [20 marks]**

**ANSWERS FOR Q1(a) & (b)**

**1 (a)**

A plc

Income Statement for the y/e 31/12/2021 [in £000s]

|  |  |  |
| --- | --- | --- |
| Sales |  | 1200 |
| Cost of sales |  |  |
| Opening inventory | 250 |  |
| Purchases | 600 |  |
| Closing inventory | [150] | [700] |
| GP |  | 500 |
| Expenses |  |  |
| Rent & rates [30 – 4 + 1] | 27 |  |
| Selling expenses [20 – 2] | 18 |  |
| Advertising [20 – 3] | 17 |  |
| Insurance [9 + 1] | 10 |  |
| Energy costs [25 + 1] | 26 |  |
| Audit fee [10 + 2] | 12 |  |
| Depreciation of vehicles [130 – 30] x 0.25 | 25 |  |
| Depreciation of fixtures & fittings [100 x 0.3] | 30 |  |
| Distribution costs | 30 |  |
| Salaries & wages | 90 |  |
| Directors’ remuneration | 45 |  |
| Bad debt | 3 |  |
| Interest on bank loan | 8 |  |
| Debenture interest [10 + 2] | 12 | [353] |
| PBT |  | 147 |
| CT |  | [60] |
| PAT |  | 87 |
| Dividends – interim  -- final [400 x £0.09] | 25  36 | [61] |
| Retained profit for the year |  | 26 |
| Retained profit b/f |  | 90 |
| Retained profit c/f |  | 116 |

**1 (b)**

A plc

SOFP as at 31/12/2021 [in £000s]

|  |  |  |  |
| --- | --- | --- | --- |
| Non-current assets | Cost | Accumulated  Depreciation | NBV |
| Premises | 650 | --- | 650 |
| Vehicles | 130 | 30 + 25 = 55 | 75 |
| Fixtures & fittings | 100 | 60 + 30 = 90 | 10 |
|  | 880 | 145 | 735 |
| Current assets |  |  |  |
| Inventory | 150 |  |  |
| Receivables | 90 |  |  |
| Prepayments [4 + 3 + 2] | 9 |  |  |
| Bank | 7 |  |  |
| Cash | 3 |  | 259 |
| Total assets |  |  | 994 |
|  |  |  |  |
| Share capital |  |  |  |
| £1 Ordinary shares |  |  | 400 |
| Reserves |  |  |  |
| Share premium |  |  | 100 |
| Retained profits |  |  | 116 |
| Shareholders’ funds |  |  | 616 |
| Non-current liabilities |  |  |  |
| 8% Long term bank loan | 100 |  |  |
| 12% Debentures | 100 |  | 200 |
| Current liabilities |  |  |  |
| Accruals [1 + 1 + 1 + 2 + 2] | 7 |  |  |
| Payables | 75 |  |  |
| CT | 60 |  |  |
| Proposed dividends | 36 |  | 178 |
| Shareholders’ funds & liabilities |  |  | 994 |

**Section B: Attempt ANY Two questions – 30 marks each**

**Question 2**.

The latest financials [in £000s] of B Ltd are provided below.

|  |  |  |
| --- | --- | --- |
| Year ended 31st July | 2022 | 2021 |
| Sales | 150 | 130 |
| Gross profit | 70 | 60 |
| Profit before tax | 20 | 22 |

|  |  |  |
| --- | --- | --- |
| SOFP as at 31st July | 2022 | 2021 |
| Inventory | 22 | 18 |
| Receivables | 18 | 20 |
| Bank and cash | 3 | 4 |
| Payables | 16 | 13 |
| Other current liabilities | 12 | 12 |

**Required:**

**a) Calculate profitability, liquidity and efficiency ratios for both years.**

**[14 marks]**

**b) Comment on the financial performance of B Ltd over the 2 years using the ratios you have calculated. [16 marks]**

**ANSWERS FOR Q2(a) & (b)**

**2(a)**

|  |  |  |
| --- | --- | --- |
| Year ended 31st July | 2022 | 2021 |
| Profitability ratios  GP ratio: [GP/Sales] x 100  NP ratio: [PBT/Sales] x 100 | [70/150] x 100 = 46.67%  [20/150] x 100 = 13.33% | [60/130] x 100 = 46.15%  [22/130] x 100 = 16.92% |
| Liquidity ratios  Current ratio: [Norm 2x]  Current assets/Current liabilities  Quick ratio: [Norm 1x]  [Current assets - Inventory]/Current liabilities | [22 + 18 + 3]/[16 +12]  = 43/28 = 1.53x  [18 + 3]/ 16 +12]  = 21/28 = 0.75x | [18 + 20 + 4] / [13 + 12]  = 42/25 = 1.68x  [20 + 4] / [13 + 12]  = 24/25 = 0.96x |
|  |  |  |
| Efficiency ratios  Inventory days:  [Inventory / Cost of sales] x 365  Receivables days  [Receivables / Sales] x 365  Payables days  Payables / Cost of sales x 365 | [22/(150 – 70)] x 365  = [22 / 80] x 365 = 100.4  = 100 days  [18 / 150] x 365 = 43.8  = 44 days  [16 / 80] x 365 = 73 days | [18 / 70] x 365 = 93.86  = 94 days  [20 / 130] x 365 = 56.15  = 56 days  [13/70] x 365 = 67.79  = 68 days |

**2(b)**

**Commentary on B Ltd.’s financial performance over the 2 years**

**Profitability**

**GP ratio:** This appears to be the same for both years. It may indicate that there are no changes in the selling prices and purchase costs for both years

**NP ratio:** This has decreased in 2022. It shows an increase in expenses in 2022.

**Liquidity**

**Current ratio:** This is well below the norm of 2x and shows a decreasing trend over the 2 years.

**Quick ratio:** This also shows a decrease in 2022 and is well below the norm of 1x.

**Efficiency**

**Inventory days:** This shows an increase of 6 days in 2022. Indicates that it is taking longer to sell its inventory.

**Receivables days:** This has decreased from 56 days to 44 days. It shows an improvement in receivables management [i.e. credit control of receivables].

**Payables days:** This has increased from 68 days to 73 days. More information [i.e. credit period allowed by the supply chain] is required to assess payables management.

**Conclusion/summary/recommendations to the management of B Ltd.**

The NP ratio can be improved by better management of expenses.

Both liquidity ratios need to be improved and increased to the norms. Otherwise the company may face cash flow problems.

Better management of inventory is necessary – this may improve profitability and liquidity. Payables management may require attention to manage credit risks with the supply chain.

**Question 3**.

C Ltd is planning forecasts for one of its products.

Budgeted production and sales are 35,000 units.

Maximum capacity is 50,000 units.

Selling price per unit is £25

Variable cost per unit is £15

Fixed costs per annum is £220,000

**Required:**

**a) Breakeven sales volume and sales revenue. [8 marks]**

**b) Budgeted profit. [5 marks]**

**c) Margin of safety. [2 marks]**

**d) The sales volume and sales revenue required to make a profit of £100,000.**

**e) If the selling price reduces to £23 per unit, variable costs reduce by 20%, fixed costs increase by 5% and 40,000 units can be sold, calculate the budgeted profit, breakeven point and the margin of safety. Comment briefly on the results. [10 marks]**

**f) State the limitations of the above analysis. [5 marks]**

**ANSWERS FOR Q 3**

a)

Contribution per unit = £ [25 – 15] = £10

BEP [units] = Total fixed costs / Contribution per unit

= £220,000 / £10 = 22,000 units

C/S ratio = £10 / £25 = 0.4

BEP [£] = Total fixed costs / C/S ratio = £220,000 / 0.4 = £550,000

b) Budgeted profit = Budgeted contribution – Total fixed costs

= £10 x 35,000 units - £220,000

= £350,000 - £220,000 = £130,000

c) Margin of safety = 35,000 – 22,000 = 13,000 units

d) Profit required = £100,000

Contribution required = Fixed costs + profit

= £220,000 + £100,000 = £320,000

Sales volume required to make this profit and contribution

= Contribution required / Contribution per unit

= £320,000 / £10 per unit = 32,000 units

Sales revenue required to make a profit of £100,000

= Total contribution required / C/S ratio

= £320,000 / 0.4 = £800,000

e)

Revised variable costs per unit = £15 x 0.8 = £12

Revised fixed costs = £220,000 x 1.05 = £231,000

Revised selling price per unit = £23

Revised contribution per unit = £ [23 – 12] = £11 per unit

Profit = £11 x 40,000 units - £231,000

= £440,000 - £231,000 = £209,000

BEP [units] = £231,000 / £11 per unit = 21,000 units

Margin of safety = 40,000 units – 21,000 units = 19,000 units

Comments: The revised contribution has increased to £11 per unit; this has produced a higher profit from the higher sales volume of 40,000 units. In addition, the BEP has reduced and there has increased the margin of safety. This strategy has better results compared to the original budget.

f)

The limitations of the above analysis are:

* All costs can be analysed into variable and fixed costs.
* Selling price per unit, variable cost per unit and the total fixed costs are assumed to constant within the relevant range [ i.e. the maximum capacity]
* All other factors affecting the production and sales are expected to remain constant within the maximum capacity e.g. production methods, advertising and promotion etc
* All production is expected to be sold [or production volume = sales volume]
* production - sales mix remains constant.

**Question 4**

D plc seeks your advice on a new product investment.

Information on the new product investment:

* New machinery costing £150,000 (year 0) will be required immediately.
* Product’s selling price is £35 per unit and its variable costs are £25 per unit over the 5 years.
* Fixed costs per annum for this investment potential is estimated to be £100,000 per annum over the investment period. This incudes depreciation of £30,000 per annum for the new machinery.
* The following five-year sales forecasts relate to the new product.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 1 | 2 | 3 | 4 | 5 |
| Sales volume (units) | 12,000 | 14,000 | 16,000 | 15,000 | 11,000 |

* D plc’s cost of capital is 10 % and the payback required for the investment is 3 years. Accounting rate of return required for the investment is 20%
* Discount factors @ 10 % are as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 1 | 2 | 3 | 4 | 5 |
| Discount factors @ 10 % | 0.909 | 0.826 | 0.751 | 0.683 | 0.621 |

**Required for the above investment proposal:**

**a) The relevant annual profit and cash flows for the proposal. [7 marks]**

**b) Accounting rate of return, payback and Net Present Value. [8 marks]**

**c) Advice the company using the measures in (b). [6 marks]**

**d) State five other factors that require consideration before a final decision is**

**made.** **[5 marks]**

**e) What is IRR and what are its advantages. [4 marks]**

**ANSWERS FOR Q 4**

**a)**

Contribution per unit = £ [35 – 25] = £10 per unit

Product contribution = sales volume x £10 per unit

Relevant annual profit and cash flows for the proposal [in £000s]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | 0 | 1 | 2 | 3 | 4 | 5 |
| New machinery | [150] |  |  |  |  |  |
| Product contribution @ £10 per unit | --- | 120 | 140 | 160 | 150 | 110 |
| Fixed costs |  | [100] | [100] | [100] | [100] | [100] |
| Profit |  | 20 | 40 | 60 | 50 | 10 |
| Cashflows [Profit + Depreciation] | [150] | 50 | 70 | 90 | 80 | 40 |

**b)**

ARR = [Average profit / Initial investment] x 100

Average profit [in £000s] = [20 + 40 + 60 + 50 + 10] / 5 years = 180 / 5 = 36 Average profit = £36,000

ARR = [£36,000 / £150,000] X 100 = 24%

Payback

Cumulative cashflow for years 2 and 3 are £120,000 and £210,000 respectively.

Payback is between years 2 and 3.

Payback = 2 + [£30,000 / £90,000] = 2.33 years.

NPV

NPV @ 10% [£000s] = 50 x 0.909 + 70 x 0.826 + 90 x 0.751 + 80 x 0.683 + 40 x 0.621 – 150 = 45.45 + 57.82 + 67.59 + 54.64 + 24.84 – 150 = 100.34

NPV @10% = £100,340

c) All investment decision should use/rely on any DCF method [NPV or IRR]

In this case the NPV at the company’s cost of capital of 10% is positive at £100,340.

So, this investment is viable.

In addition, the payback is less than 3 years and the ARR is higher than 20% - both of these are within the criteria set by management.

d) Other factors to consider:

* Inflation is ignored
* Taxation has not been accounted for.
* Management & staff morale
* Training requirements for staff and management
* Health and safety issues relating to the new product investment
* Accuracy and completeness of the cashflows/profits.
* Legal considerations

e) IRR is the discount rate or the cost of capital at which the NPV is zero. It is the investment’s return in discounted cash flow terms

Advantages:

* it uses all the investment’s cash flows
* considers time value of money [by discounting the cash flows]
* It is expressed in % which is considered to be useful for those who are not familiar with the DCF methods

**END OF MOCK EXAMINATION PAPER**

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