**MOCK EXAM 2 and Suggested answers**

**ANSWER QUESTION 1 AND ANY TWO OTHER QUESTIONS**

**Section A: Compulsory 40 marks**

**Question 1**

You are provided the following trial balance as at 31/12/2020 for Z plc.

|  |  |  |
| --- | --- | --- |
|  | £000 | £000 |
| £1 Ordinary share capital |  | 8000 |
| Interim ordinary dividend paid | 50 |  |
| Retained profits |  | 1310 |
| Share premium |  | 400 |
| Business rates | 100 |  |
| Receivables | 1000 |  |
| Payables |  | 730 |
| Sales |  | 20000 |
| Purchases | 16000 |  |
| Opening inventory | 2000 |  |
| Administration expenses | 800 |  |
| Selling and distribution expenses | 1000 |  |
| Audit fee | 100 |  |
| Bad debt | 20 |  |
| Directors’ remuneration | 200 |  |
| Salaries and wages | 600 |  |
| 5% Debentures |  | 200 |
| 4% Bank loan [2028] |  | 400 |
| Debenture interest paid | 4 |  |
| Interest on bank loan | 16 |  |
| Freehold land at cost | 5000 |  |
| Buildings at cost | 2000 |  |
| Buildings – accumulated depreciation |  | 400 |
| Machinery at cost | 3000 |  |
| Machinery – accumulated depreciation |  | 500 |
| Cash | 5 |  |
| Bank | 45 |  |
|  | 31940 | 31940 |

**Additional information as at 31/12/2020**:

* Inventory was valued at £4,000,000.
* Selling expenses prepaid £250,000; business rates prepaid £30,000
* Accruals for: salaries £10,000; audit fee £40,000 and distribution expenses £50,000.
* Machinery to be depreciated by 20% on reducing balance basis.
* Buildings to be depreciated by 5% on straight line
* The directors wish to provide £150,000 for taxation.
* The directors propose a final ordinary dividend of 10p per share.

**Required:**

**(a) Income Statement for the year ended 31/03/2020. [20 marks]**

**(b) Statement of Financial Position as at 31/03/2020. [20 marks]**

**Answers**

**(a)**

**Z plc**

**Income Statement for the y/e 31/03/2020 [in £000s]**

|  |  |  |
| --- | --- | --- |
| Sales |  | 20000 |
| Cost of sales |  |  |
| Opening inventory | 2000 |  |
| Purchases | 16000 |  |
| Closing inventory | [4000] | [14000] |
| GP |  | 6000 |
| Expenses |  |  |
| Selling and distribution expenses [1000 – 250 + 50] | 800 |  |
| Business rates [100 – 30] | 70 |  |
| Salaries and wages [600 + 10] | 610 |  |
| Audit fee [100 + 40] | 140 |  |
| Depreciation of machinery [3000 – 500] x 0.2 | 500 |  |
| Depreciation of buildings [2000 x 0.05] | 100 |  |
| Administration expenses | 800 |  |
| Bad debt | 20 |  |
| Directors’ remuneration | 200 |  |
| Debenture interest [4 + 6] | 10 |  |
| Interest on bank loan | 16 | [3266] |
| PBT |  | 2734 |
| CT |  | [150] |
| PAT |  | 2584 |
| Dividends – interim paid  -- final proposed 8000 x £0.1 | 50  800 | [850] |
| Retained profit for the year |  | 1734 |
| Retained profit b/f |  | 1310 |
| Retained profit c/f |  | 3044 |

**b)**

**SOFP as at 31/03/2020 [in £000s]**

|  |  |  |  |
| --- | --- | --- | --- |
| Non-current assets | Cost | Accumulated  Depreciation | NBV |
| Freehold land | 5000 | ---- | 5000 |
| Buildings | 2000 | 400 + 100 = 500 | 1500 |
| Machinery | 3000 | 500 + 500 = 1000 | 2000 |
|  | 10000 | 1500 | 8500 |
|  |  |  |  |
| Current assets |  |  |  |
| Inventory | 4000 |  |  |
| Receivables | 1000 |  |  |
| Prepayment [250 + 30] | 280 |  |  |
| Bank | 45 |  |  |
| Cash | 5 |  | 5330 |
| Total assets |  |  | 13830 |
|  |  |  |  |
| Share capital |  |  |  |
| £1 Ordinary shares |  |  | 8000 |
| Reserves |  |  |  |
| Share Premium |  |  | 400 |
| Retained profits |  |  | 3044 |
| Shareholders’ funds |  |  | 11,444 |
|  |  |  |  |
| Non-current liabilities |  |  |  |
| 5% Debentures | 200 |  |  |
| 4% Bank loan [2028] | 400 |  | 600 |
| Current liabilities |  |  |  |
| Accruals [10 + 40 + 50 + 6] | 106 |  |  |
| CT | 150 |  |  |
| Payables | 730 |  |  |
| Proposed dividends | 800 |  | 1786 |
| Shareholders’ funds and liabilities |  |  | 13830 |

**Section B: Attempt Two (2) questions only – 30 marks each**

**Question 2**

Y plc has asked you for advice on the following long-term investment. The following forecasts are for this investment:

|  |  |  |
| --- | --- | --- |
| Details | Year |  |
| Initial investment | 0 | £2,000,000 |
|  |  |  |
| Estimated sales volumes [units] | 1 | 70,000 |
|  | 2 | 85,000 |
|  | 3 | 100,000 |
|  | 4 | 80,000 |
|  | 5 | 40,000 |

Product’s contribution is £10 per unit for all 5 years.

Incremental fixed costs are £100,000 for each of the 5 years.

Y’s cost of capital is 10% and requires a payback of 3 years for this investment.

Scrap income from the redundant non-current assets from this investment in year 5 is £100,000

**Discount factor (present values) table is at the end of this exam.**

**Required:**

**(a) Prepare a cash flow statement for the investment. [6 marks]**

**(b) Calculate the payback and NPV of the investment. [6 marks]**

**(c) Advice Y plc on the financial viability of the investment. Justify**

**the basis of your advice. [5 marks]**

**(d) What other factors may need to be considered before a**

**final decision is made. [5 marks]**

**(e) Comment on the investment’s internal rate of return [IRR]. What**

**are the benefits of using IRR in the above analysis. [8 marks]**

**Answers**

**(a) Cashflow statement in £000s**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **0** | **1** | **2** | **3** | **4** | **5** |
| **Initial investment** | **[2,000]** |  |  |  |  |  |
| **Contribution @ £10 per unit sold** |  | **700** | **800** | **1,000** | **800** | **400** |
| **Incremental fixed costs** |  | **[100]** | **[100]** | **[100]** | **[100]** | **[100]** |
| **Scrap income** |  |  |  |  |  | **100** |
| **Net cash flows** | **[2,000]** | **600** | **700** | **900** | **700** | **400** |

**(a)**

Cumulative NCF [in £000s] in years 2 and 3 = 1300 and 2200

Payback = 2 + [700 / 900] = 2.78 years

**(b)**

NPV @10% [in £000s] = 600 x 0.909 + 700 x 0.826 + 900 x 0.751 + 700 x 0.683 + 400 x 0.621 – 2000 = 526.

NPV @10 = £526,000

**(c), (d) and (e): Please refer to similar answers to such questions in Mock exam 1.**

**Question 3.**

The following information relate to X Ltd over 2 years.

Year 2020 2021

£000. £000

Sales (all on credit) 600 1000

Cost of sales 270 450

Total expenses. 180 260

Closing inventory 45 70

Closing receivables 47 60

Closing cash and bank 24 38

Closing payables 54 66

Accruals. 1 1

There are no other current assets or current liabilities.

**Required for both years:**

**(a) Calculate two profitability and two liquidity ratios. [8 marks].**

**(b) Calculate three efficiency ratios. [6 marks]**

**(c) Using the ratios, compare the financial performance over the**

**2 years. [15 marks]**

**Answers**

**(a) & (b)**

**Profitability ratios**

GP [£000s]

2020: 600 – 270 = 330

2021: 1000 – 450 = 550

NP [£000s]

2020: 330 – 180 = 150

2021: 550 – 260 = 290

2020: GP ratio = GP / Sales = 330 / 600 = 0.55 or 55%

NP ratio = NP / Sales = 150 / 600 = 0.25 or 25%

2021: GP ratio = GP / Sales = 550 / 1000 = 0.55 or 55%

NP ratio = NP / Sales = 290 / 1000 = 0.29 or 29%

**Liquidity ratios**

2020

Current assets [£000s] = 45 + 47 + 24 = 116

Current liabilities [£000s] = 54 + 1 = 55

Quick assets [£000s] = 47 + 24 = 71

2021

Current assets [£000s] = 70 + 60 + 38 = 168

Current liabilities [£000s] = 66 + 1 = 67

Quick assets [£000s] = 60 + 38 = 98

Current ratio = Current assets / Current liabilities =

2020: 116 / 55 = 2.11 or 2.11:1 or 2.11 times

2021: 168 /67 = 2.51

Quick ratio = Quick assets / Current liabilities

2020: 71 / 55 = 1.29

2021: 98 / 67 = 1.46

Efficiency ratios

Inventory holding = [Closing inventory / Cost of sales] x 365

2020: [45 / 270] x 365 = 60.83 = 61 days

2021: [70 / 450] x 365 = 56.77 = 57 days

Receivables days = [Receivables / Sales] x 365

2020: [47 / 600] x 365 = 28.59 = 29 days

2021: [60 / 1000] x 365 = 21.9 = 22 days

Payables days = [Payables / Cost of sales] x 365

2020: [54 / 270] x 365 = 73 days

2021: [66 / 450] x 365 = 53.53 = 54 days

OR THE SAME ANWERS CAN BE PRESENTED IN THE FOLLOWING WAY OR IN ANY OTHER SUITABLE FORMAT.

**(a) & (b)**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | 2020 | 2021 |
| GP | 2020: 600 – 270 = 330 |  |  |
| NP | 2020: 330 – 180 = 150 |  |  |
| GP | 2021:1000 – 450 = 550 |  |  |
| NP | 2021: 550 – 260 =290 |  |  |
| GP ratio | GP / Sales | 330/600 = 0.55 or 55% | 550/1000 = 0.55  or 55% |
| NP ratio | NP / sales | 150/600 = 0.25  or 25% | 290/1000 = 0.29  or 29% |
| Current assets | 2020: 45 + 47 + 24 = 116  2021: 70 + 60 + 38 = 168 |  |  |
| Current liabilities | 2020: 54 + 1 = 55  2021: 66 + 1 = 67 |  |  |
| Current ratio [norm 2:1] | Current assets/ Current liabilities | 116/55 = 2.11  or 2.11:1 or 2.11 times | 168/67 = 2.51 |
| Quick ratio  [norm 1:1] | Quick assets/ Current liabilities | [116 – 45] / 55 = 1.29 | [168 – 70] / 67 = 1.46 |
| Inventory holding | [Inventory / Cost of sales] x 365 | [45 / 270] x 365 = 60.83  = 61 days | [70 / 450] x 365  = 56.77  = 57 days |
| Receivables  ratio | [Receivables / Sales]  X 365 | [47/ 600] x 365 = 28.59  = 29 days | [60 / 1000] x 365  = 21.9  = 22 days |
| Payables | Payables / Cost of sales x 365 | [54 / 270] x 365 = 73 days | [66 / 450] x 365  = 53.53 = 54 days |

**c)**

**Profitability**

GP ratio**:** No change in both years; possibly the selling prices and purchased costs may have remained the same over the 2 years.

NP ratio: This has improved in 2021 – shows better management of expenses.

**Liquidity**

Both liquidity ratios have increased in 2021 compared to 2020 as well as the norms. Hence both ratios require monitoring/management attention.

**Efficiency ratios:**

All 3 efficiency ratios have decreased in 2021- indicates better / more efficient management of inventory, credit management and control receivables and payables in 2021.

**Summary/conclusion**

Both the liquidly ratios may require reduction in the current assets to reduce them to the norms as indicated in the table above. This may improve profitability in future.

**Question 4**

A new product is to be introduced by W Ltd and the budgeted production and sales are 20,000 units. Maximum capacity is 30,000 units. The following data relate it.

Selling price per unit £200

Variable cost per unit £120

Fixed costs per year £1,200,000

**Required:**

**(a) Calculate the budgeted profit, break-even sales volume and the**

**margin of safety. (9 marks)**

**(b) Calculate the sales volume required to make a profit of**

**£500,000. (6 marks)**

**(c) Sales director suggests the following changes for the new**

**product:**

* **Selling price £195 per unit**
* **Sell 20,000 units.**

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

**this strategy.**

**Comment on this strategy. (10)**

**(d) What assumptions apply in the above calculations. (5 marks)**

**Answers**

**(a)**

Contribution per unit = £ [200 -120] = £80

Budgeted profit = Total contribution – Total fixed costs

= £80 x 20,000 - £1.2m = £1.6m - £1.2m = £0.4m or £400,000

BEP (units) = Total fixed costs / Contribution per unit

= £1,200,000 / £80 = 15,000 units

Margin of safety = 20,000 – 15,000 = 5000 units

**(b)**

Profit required = £500,000

Contribution required = Profit + fixed costs

= £ [500,000 + 1,200,000] = £1,700,000

Sales volume required = Total contribution / Contribution per unit

= £ 1,700,000 / £80 = 21,250 units

**(c)**

Revised contribution per unit = £ [195 – 120] = £75

Profit = £75 x 20,000 - £1.2m = £1.5m - £1.2m = £0.3m or £300,000

BEP [unit] = £1.2m / £75 = 16,000 units

Margin of safety = 20,000 – 16,000 = 4000 units

**Comments on the strategy**

A reduction in the selling price reduces the contribution per unit for this sales director’s strategy. This reduces the profit for the same sales volume and also increases the breakeven point thus reducing the margin of safety.

**(d) Please refer to answer in Mock exam 1 for this question.**

**END OF MOCK EXAM & SUGGESTED ANSWERS**

**Discount Factor Table**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | *Discount rate (i)* | | | |  |  |  |  |
| *Years* |  |  |  |  |  |  |  |  |  |  |  |
| *(N)* | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | 0.990 | 0.980 | 0.971 | 0.962 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 1 |
| 2 | 0.980 | 0.961 | 0.943 | 0.925 | 0.907 | 0.890 | 0.873 | 0.857 | 0.842 | 0.826 | 2 |
| 3 | 0.971 | 0.942 | 0.915 | 0.889 | 0.864 | 0.840 | 0.816 | 0.794 | 0.772 | 0.751 | 3 |
| 4 | 0.961 | 0.924 | 0.888 | 0.855 | 0.823 | 0.792 | 0.763 | 0.735 | 0.708 | 0.683 | 4 |
| 5 | 0.951 | 0.906 | 0.863 | 0.822 | 0.784 | 0.747 | 0.713 | 0.681 | 0.650 | 0.621 | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | 11% | 12% | 13% | 14% | 15% | 16% | 17% | 18% | 19% | 20% |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | 0.901 | 0.893 | 0.885 | 0.877 | 0.870 | 0.862 | 0.855 | 0.847 | 0.840 | 0.833 | 1 |
| 2 | 0.812 | 0.797 | 0.783 | 0.769 | 0.756 | 0.743 | 0.731 | 0.718 | 0.706 | 0.694 | 2 |
| 3 | 0.731 | 0.712 | 0.693 | 0.675 | 0.658 | 0.641 | 0.624 | 0.609 | 0.593 | 0.579 | 3 |
| 4 | 0.659 | 0.636 | 0.613 | 0.592 | 0.572 | 0.552 | 0.534 | 0.516 | 0.499 | 0.482 | 4 |
| 5 | 0.593 | 0.567 | 0.543 | 0.519 | 0.497 | 0.476 | 0.456 | 0.437 | 0.419 | 0.402 | 5 |
|  |  |  |  |  |  |  |  |  |  |  |  |