REDSPOT

AS LEVEL

CLASSIFIED WORKED SOLUTIONS

ACCOUNTING

(Paper 2 - All Variants)

(Syllabus 9706)

period	**2017 to 2023**
contents	**June & November, Paper 2 (All Variants) Worked Solutions**
form	**Topic By Topic**
compiled for	**AS Level**

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TOPIC 1

Bank Reconciliation Statement

1. ***[Nov 2019/P21/Q2]***

Jacques is a sole trader.

On 31 January 2019, the balance on the bank statement was $1875 debit. This did not agree with Jacques's cash book balance of $4327 credit.

The following transactions were included **only** on the bank statement.

1 A payment for wages of $850.

2 A transfer of $3500 from Smith, a credit customer.

The following transactions were included **only** in the cash book.

1 A cheque payment to a supplier for $340.

2 A receipt of $560 from a customer.

The following errors have also been identified.

1 A direct debit payment for insurance of $180 had been incorrectly recorded on the bank statement as $108.

2 A standing order for electricity of $175 had been incorrectly recorded in the cash book as $275.

3 Bank interest paid of $75 had been recorded as interest received in the cash book.

REQUIRED

(a) Prepare the updated cash book at 31 January 2019. Dates are **not** required.

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(b) Prepare the bank reconciliation statement at 31 January 2019.

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(c) State **two** reasons why a business would prepare a bank reconciliation statement.

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Additional information

Jacques calculated a draft profit for the year ended 31 January 2019 of $10 340. He has identified the following.

1 An item of inventory had been included at cost, $800. It was found to be damaged. It could be sold for $900 if repairs costing $150 were carried out.

2 On 25 January 2019 Jacques had sent goods to a customer on a sale or return basis. These had been invoiced to the customer at $2800. Jacques marks up his goods at 40%. The customer had not decided whether to keep the goods.

3 On 4 February 2019 Jacques received an invoice for $3600 relating to rental of storage space for three months ending 31 March 2019.

REQUIRED

(d) Prepare a statement to show the revised profit for the year ended 31 January 2019, after adjusting for items 1, 2 and 3.

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[Total: 15]

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2. ***[Nov 2020/P21/Q2]***

Noor, a sole trader, prepares bank reconciliation statements at the end of each month.

REQUIRED

(a) State **four** benefits to a business of preparing a bank reconciliation statement.

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(b) State **two** differences between a bank standing order and a direct debit.

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Additional information

On 31 October 2019 Noor received the following bank statement for her business account.

Date	Details	Dr	Cr	Balance
		$	$	$
1 Oct	Balance b/d			292.22 Cr
3 Oct	Credit		927.40	1219.62 Cr
6 Oct	Direct debit: P Ltd	334.80		884.82 Cr
7 Oct	Cheque 626344	118.48		766.34 Cr
9 Oct	Cheque 626346	723.21		43.13 Cr
18 Oct	Credit transfer: Tahir		184.95	228.08 Cr
21 Oct	Bank charges	59.60		168.48 Cr
22 Oct	Direct debit: Ayesha	172.80		4.32 Dr
24 Oct	Credit		841.67	837.35 Cr
27 Oct	Cheque 626347	1 206.22		368.87 Dr
29 Oct	Credit transfer: H Ltd		229.48	139.39 Dr

Noor's cash book (bank columns) for October 2019 was as follows.

Cash Book (bank columns)

		$			$
Oct			Oct 2	Z Ltd (cheque 626344)	118.48
1	Balance b/d	292.22	4	J Ltd (cheque 626345)	276.93
1	Sales	927.40	5	Ayan (cheque 626346)	723.21
22	Tahir (credit transfer)	184.95	6	P Ltd (direct debit)	334.80
23	Sales	841.67	22	Huma (cheque 626347)	1206.22
29	Sales	773.25	26	Usman (cheque 626348)	985.33
31	Balance c/d	625.48			
		3644.97			3644.97
			Nov 1	Balance b/d	625.48

REQUIRED

(c) Prepare Noor's updated cash book.

Cash Book (bank columns)

	$		$
		Balance b/d	625.48

[4]

(d) Prepare a bank reconciliation statement at 31 October 2019.

Start with the balance per the bank statement.

Bank reconciliation statement at 31 October 2019

	$
Balance per bank statement	

[5]

[Total: 15]

ANSWERS

Topic 1

1. (a) Updated cash book

		Balance b/d	4 327
Smith ***[C2]***	3 500	Wages ***[C1]***	850
Electricity ***[C3]***	100	Bank interest ***[C4]***	150
Balance c/d	1 727		
	5 327		5 327
		Balance b/d	1 727

Teacher's Comments:

[C1] Its payment, so credited in cash book

[C2] Its receipt, so debited in cash book

[C3] Error in cash book, (we must rectify this error), extra amount credited in cash book to be debited

[C4] Error in cash book (we must rectify this error), amount debited instead of credit (double amount)

(b)

	$
Balance as per bank statement	(1 875)
Not presented cheques ***[C5]***	(340)
Not credited cheque ***[C6]***	560
Insurance understated ***[C7]***	(72)
Balance as per updated cash book	(1 727)

Teacher's Comments:

[C5] Not presented cheque (Bank statement balance > cash book balance) therefore deducted from bank statement balance.

[C6] Not credited (Cash book balance > bank statement balance) therefore added in bank statement balance.

[C7] Error in bank statement, need to be adjusted in bank reconciliation (we cannot rectify this error)

(c) 1. To identify possible errors in cash book

2. To identify possible errors in bank statement

(d)

	$
Draft profit for the year	10 340
Decrease in inventory valuation [$800 – ($900 – $150)]	(50)
Reversal of sales (goods aren't sold yet)	(2 800)
Increase in inventory valuation at cost price $\left(\$2\,800 \times \frac{100}{140}\right)$	2 000
Accrued Rental of storage space, for 1 month $\left(\$3\,600 \times \frac{1}{3}\right)$	(1 200)
Revised profit for the year	8 290

2. **(a)** 1. Helps identify errors in cash book.
2. Helps identify errors in bank statement.
3. Helps identify frauds.
4. Ensures cash book is updated.

(b) 1. Standing order is for a fixed amount whereas amount of direct debit varies.
2. Standing order is paid after regular time intervals e.g. monthly, quarterly etc whereas direct debit takes place irregularly.

(c)

Cash Book (bank columns)

	$		$
H Ltd ***[C2]***	229.48	Balance b/d	625.48
Balance c/d	628.40	Bank charges ***[C1]***	59.60
		Ayesha ***[C1]***	172.80
	857.88		857.88
		Balance b/d	628.40

Teacher's Comments:

[C1] Already debited in bank statement but missing from cash book

[C2] Already credited in bank statement but missing from cash book

(d)

Bank reconciliation statement at 31 October 2019

	$
Balance per bank statement	(139.39)
Not presented cheques ***[C3]*** - J ltd	(276.93)
- Usman	(985.33)
Not credited deposit ***[C4]***	773.25
Balance as per updated cash book	(628.40)

Teacher's Comments:

[C3] Due to not presented cheques, Bank statement balance > cash book balance

[C4] Due to not credited deposit, cash book balance > Bank statement balance

TOPIC 3

Accounting for Non-current Assets

1. *[Nov 2017/P21/Q2]*

The directors of W Limited have provided the following balances at 1 August 2016:

	Cost	Accumulated depreciation	Net book value
	$	$	$
Motor vehicles	125 000	43 750	81 250

The company policy is to provide depreciation on motor vehicles at 20% per annum using the reducing balance method. Depreciation is charged on a month-by-month basis.

During the year ended 31 July 2017, the following transactions took place:

1 A motor vehicle was purchased on 31 January 2017 at a cost of $28 230.

2 A motor vehicle was sold on 28 February 2017 for $14 600. It had originally been purchased on 30 April 2015 at a cost of $19 500.

3 There were no other additions or disposals of motor vehicles during the year.

REQUIRED

(a) State the double entry required to record the disposal of a non-current asset **before** the profit or loss on disposal is transferred to the income statement (amounts are **not** required).

accounts to be debited	accounts to be credited

[6]

(b) Prepare the provision for depreciation on motor vehicles account for W Limited for the year ended 31 July 2017 (dates are **not** required).

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(c) Calculate the effect on profit for the year of **each** of transactions 1 and 2.

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[Total: 15]

2. ***[Nov 2017/P22/Q3]***

K Limited has been trading for many years and prepares financial statements annually to 30 April. It had the following balances at 1 May 2016:

	$	$
Plant and equipment		
at cost	84 695	
provision for depreciation		32 855

On 1 February 2017, the company bought new equipment, $12 785, and the cost of installing this equipment was $1595.

On 31 December 2016 the company sold a motor vehicle which had cost $14 850 on 1 August 2015. The proceeds of $8900 were paid by cheque.

The company's depreciation policy is as follows:

Plant and equipment	20% on cost per annum
Motor vehicles	25% reducing balance per annum

Depreciation is charged on a month-by-month basis.

REQUIRED

(a) (i) Calculate the depreciation charge for plant and equipment for the year ended 30 April 2017. Workings **must** be shown.

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(ii) Prepare the motor vehicle disposal account for the year ended 30 April 2017. Workings **must** be shown.

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(b) Explain **two** accounting concepts which are being applied when depreciation is provided.

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2 .....

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[4]

Additional information

K Limited is considering purchasing additional plant and equipment costing $30 000. This could be financed by **one** of the following:

Bank loan
Issue of ordinary shares

REQUIRED

(c) Advise the directors which method of finance they should choose. Justify your answer.

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[Total: 15]

3. ***[June 2018/P21/Q2]***

The following information has been extracted from the books of account of FA Limited at 1 January 2016.

	$
Motor vehicles at cost	124 000
Motor vehicles provision for depreciation	54 250

The following information is also available.

1 All the company's motor vehicles had been purchased on 1 January 2014.

2 On 1 July 2016, a new motor vehicle was purchased for $48 000. The cost was settled by a cheque payment of $28 000, the balance by the part exchange of an old motor vehicle.

The vehicle that was part-exchanged had cost $36 000.

3 The company policy is to depreciate motor vehicles at 25% per annum using the reducing balance method.

A full year's depreciation is charged in the year of purchase, but none in the year of sale.

REQUIRED

(a) Prepare the following ledger accounts for the year ended 31 December 2016. (Dates are not required.)

Motor vehicles at cost

	$		$

Motor vehicles provision for depreciation

	$		$

Disposal of non-current assets

	$		$

Workings

[6]

(b) Analyse the effect on the profit for the year ended 31 December 2016 if FA Limited had always used the **straight-line method** of depreciation at **20%** per annum. Show your workings.

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(c) Explain **two** accounting concepts that apply to making the annual charge for depreciation.

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[Total: 15]

4. ***[June 2018/P22/Q3]***

Butler operates a small business.

He has provided the following information for non-current assets at 31 July 2016.

	$
Plant and machinery	
Cost	195 000
Provision for depreciation	68 250

During the year ended 31 July 2017, the following transactions took place.

1 A machine was sold for $25 000. There was a loss on disposal of $3000. The machine had been purchased on 28 May 2016.

2 A machine was purchased by cheque at a cost of $37 500. The following costs were also incurred for the new machine:

	$
Annual insurance	2825
Installation expenses	4500

Plant and machinery is depreciated using the reducing balance method at a rate of 20% per annum.

A full year's depreciation is charged in the year of purchase. No depreciation is charged in the year of disposal.

REQUIRED

(a) Prepare the following ledger accounts for the year ended 31 July 2017. Dates are **not** required.

(i) Plant and machinery at cost

	$		$

[3]

(ii) Provision for depreciation on plant and machinery

	$		$

[3]

REQUIRED

(b) Explain why a business may use reducing balance method of depreciation for plant and machinery.

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..... [3]

Additional information

Butler also purchases loose tools for use in the business.

(c) Explain **two** accounting treatments for loose tools.

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[4]

(d) Explain **one** fundamental accounting concept relating to depreciation.

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..... [2]

[Total: 15]

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5. ***[Nov 2018/P21/Q2]***

A business depreciates its non-current assets.

REQUIRED

(a) Explain why a business should comply with the following concepts when accounting for non-current assets.

Prudence .....

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Accruals (matching) .....

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..... [4]

Additional information

T Limited prepares accounts to 30 June.

The following balances are available at 30 June 2017:

	$
Plant and machinery at cost	174 300
Provision for depreciation	48 700

ANSWERS

Topic 3

1. (a)

accounts to be debited	accounts to be credited
Disposal account (cost price)	Non-current asset account
Provision for depreciation (accumulated depreciation)	Disposal account
Bank (sale value)	Disposal account

(b)

Provision for depreciation account

	$			$	
Disposal	6 409	*[w2]*	Balance b/d	43 750	
Balance c/d	55 179		Statement of profit or loss	17 838	*[w1]*
	61 588			61 588	
			Balance b/d	55 179	

WORKINGS

[w1] Net book value of disposal at start of the year :

$\$19,500 - \left(\$19,500 \times 20\% \times \frac{3}{12} = 975\right) - [(\$19,500 - \$975) \times 20\% = \$3705] = \$14,820$

Depreciation of assets held for entire year $(\$81,250 - \$14,820) \times 20\% = \$13,286$

Depreciation of assets disposed off $\left(\$14,820 \times 20\% \times \frac{7}{12}\right) = \$1729$

Depreciation of newly purchased assets $\left(\$28,230 \times 20\% \times \frac{6}{12}\right) = \$2823$

Total depreciation $(\$13,286 + \$1729 + \$2823) = \$17,838$

[w2] Total depreciation $(\$975 + \$3705 + \$1729) = \$6409$

(c) Transaction 1: Decrease in profit by $2823 due to depreciation charge for the year.

Transaction 2: Increase in profit by [$14 600 – ($14 820 – $1729)] $1509 due to profit on disposal.

2. (a) (i) $\$84695 \times 20\% = \$16939$

$(\$12785 + \$1595) \times 20\% \times \frac{3}{12} = \$719$

Total depreciation $= \$16939 + \$719 = \$17658$

(ii) Motor Vehicle Disposal Account

	$		$
Motor Vehicle	14 850	Provision for depreciation ***[w1]***	4 795
		Bank	8 900
		Income statement	1 155
	14 850		14 850

WORKINGS

[w1] Depreciation of disposed off vehicle

Date of purchase, 1 August 2015

$$\text{Depreciation charged for the year ended 30 April 2016} = \$14,850 \times 25\% \times \frac{9}{12} = \$2784$$

$$\text{Depreciation charged for the year ended 30 April 2017} = (\$14,850 - \$2\,784) \times 25\% \times \frac{8}{12} = \$2011$$

$$\text{Total depreciation} = \$2784 + \$2011 = \$4795$$

(b) 1. Matching concept: An expense incurred must be matched against revenue earned due to that expense.

2. Prudence concept: Assets and profits are to be valued at true and fair valuation otherwise undervalued.

(c) Loan - repayment in easy instalments over long time, show lender's confidence in future of business, lenders may ask collateral security, loan interest have to be paid even in case of loss.

Capital - No Repayment unless business comes to an end, Profit doesn't affected by additional expense of interest. No external influence.

3. (a) Motor vehicles at cost

	$		$
Balance b/d	124 000	Disposal	36 000
Bank	28 000		
Disposal	20 000	Balance c/d	136 000
	172 000		172 000
Balance b/d	136 000		

Motor vehicles provision for depreciation

	$		$
Disposal	15 750 ***[w1]***	Balance b/d	54 250
Balance c/d	62 875	Statement of profit or loss	24 375 ***[w2]***
	78 625		78 625
		Balance b/d	62 875

Disposal of non-current assets

	$		$
Motor vehicle	36 000	Provision for depreciation	15 750 ***[w1]***
		Motor vehicle	20 000
		Statement of profit or loss	250
	36 000		36 000

WORKINGS

[w1] Net book value of disposal ($36,000 × 75% × 75%) $20,250.
Accumulated depreciation of disposal ($36,000 – $20,250) $15,750

[w2] Net book value at start ($124,000 – $54,250) $69,750
Depreciation for the year ($69,750 – $20,250 + $48,000) × 25% = $24,375

(b) Depreciation for the year would have been ($136 000 × 20%) $27 200 which will be ($27 200 – $24 375) $2825 more than reducing balance therefore profit will decrease by $2825.

Accumulated depreciation of disposed off motor vehicle will be ($36 000 × 20% × 2) $14 400 resulting in net book value of ($36 000 – $14 400) $21 600 and loss on disposal of ($21 600 – $20 000) $1600 which is ($1600 – $250) $1350 more than loss in case of reducing balance method therefore profit will decrease by $1350. Overall profit will decrease by ($2825 + $1350) $4175.

(c) 1. Matching, Depreciation i.e. an expense due to usage of non-current asset is matched against revenue earned due to usage of non-current asset.

2. Prudence concept by making sure that both assets and profits are not overstated.

4. (a) (i) Plant and machinery at cost

	$		$
Balance b/d	195 000	Disposal ***[w1]***	35 000
Bank ***[w2]***	42 000	Balance c/d	202 000
	237 000		237 000
Balance b/d	202 000		

(ii) Provision for depreciation on plant and machinery

	$		$
Disposal ***[w3]***	7 000	Balance b/d	68 250
Balance c/d	89 400	Income statement ***[w4]***	28 150
	96 400		96 400
		Balance b/d	89 400

WORKINGS

[w1] $\text{NBV} = \text{Sale Price } (\$25,000) + \text{ Loss } (\$3,000) = \$28,000$

$\text{NBV} = \text{Cost} \times 80\%$

$$\text{Cost} = \frac{\text{NBV}}{80\%} = \frac{\$28,000}{80\%} = \$35,000$$

[w2] Purchase price + Installation expenses.

[w3] One year depreciation, $\$35,000 \times 20\% = \$7000$

[w4] Cost of assets to be depreciated = $\$202,000$

Previously charged depreciation of asset to be depreciated = $\$68,250 - \$7,000 = \$61,250$

$(\$202,000 - \$61,250) \times 20\% = \$28,150$

(b) Diminishing balance is appropriate for assets providing more benefits in earlier years and less benefits in later years. In given case machinery is expected to provide benefits in similar manner. Diminishing balance method is more close to matching concept as in earlier years more depreciation is charged against more revenue.

(c) 1. Loose tools can be treated as capital expenditure and then depreciated over economic life.

2. Loose tools can be treated as revenue expenditure and full amount is charged as expenses in income statement.

(d) Matching concept. It requires expenses incurred to generate a revenue must be matched against same revenue, irrespective of cash movements, to calculate fair profit / loss for the year.

5. **(a)** Prudence: Prudence concept requires that both assets and profits are not overstated. Depreciation is deducted from cost of non-current so that non-current assets are fairly valued or at least not overstated.

Accrulas (matching): Depreciation is an expense primarily due to usage of non-current asset so it must be matched with revenue earned due to usage of non-current asset to get fair profit /loss otherwise profit will be overstated.

(b)

Provision for depreciation on plant and machinery

		$			$
2017			2017		
July 1	Disposal	11 250 ***[w1]***	July 1	Balance b/d	48 700
2018			2018		
June 30	Balance c/d	68 860	June 30	Statement of profit or loss	31 410 ***[w2]***
		80 110			80 110
			2018		
			July 1	Balance b/d	11 250

TOPIC 12.1
Marginal Costing

10. ***[March 2023/P22/Q4]***

G Limited manufactures a single product type at one of its factories. The company uses marginal costing.

REQUIRED

(a) Define **each** of the following terms:

(i) contribution per unit

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..... [1]

(ii) stepped costs

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..... [1]

(iii) margin of safety.

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..... [1]

(b) State **two** benefits of using marginal costing.

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2 .....

..... [2]

Additional information

The following budgeted information is available for September 2022.

Selling price per unit	$59
Direct materials per unit	8 kg at $2.70 per kg
Direct labour per unit	4 hrs at $8.20 per hour
Fixed costs per month	$18 400

All units produced are sold.

REQUIRED

(c) Calculate the monthly break-even point in units.

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..... [3]

Additional information

The directors hope to increase demand by improving the product.

The following information is available.

1 Current production of the original product is 7200 units per month. This represents 90% of normal capacity.

2 Direct materials will cost $3 per kg for the improved product. Each unit of the improved product will require 15% more material.

3 The selling price of the improved product will be $65.

4 It is expected that monthly production will increase by 20%.

5 The factory can operate in overtime conditions. Direct labour is paid 1.5 times the normal rate in overtime conditions.

6 An additional machine costing $40 000 will be required. Non-current assets are depreciated by 15% per annum.

REQUIRED

(d) Prepare a marginal costing statement to show the monthly forecast profit if the improved product is made.

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Additional information

At a **second** factory the company manufactures **another** single product type. The following information is available.

	$
Direct material per unit	13
Direct labour per unit	11
Other variable costs per unit	3
Selling price per unit	42
Fixed costs **per week**	12 000

The factory uses 10 machines, each producing 300 units per week. The directors are aware that problems have arisen with 4 machines which require urgent repairs. These machines will be taken out of production for 8 weeks.

The directors are considering **two** options.

Option A: Buy in goods

The goods will be provided by an overseas supplier at $34 per unit.

Total delivery costs of $4200 for 8 weeks will be charged.

The supplier can only provide 75% of the lost production.

Option B: Hire replacement machines

Only two replacement machines are available at a cost of $150 per machine per week.

The machines will only be available for 7 weeks.
Staff will require training on the replacement machines at a **total** cost of $700.

REQUIRED

(e) Calculate the profit for the 8 weeks for each option.

(i) Option A

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(ii) Option B

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(f) Advise the directors which option they should choose. Justify your answer by considering **both** options.

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..... [7]

[Total: 30]

11. ***[June 2023/P23/Q4]***

V Limited is a manufacturing company which uses marginal costing.

REQUIRED

(a) Define:

marginal cost

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contribution

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break-even point.

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..... [3]

Additional information

The following information is available for a single type of product made at one of the company's factories.

Per unit	$
Selling price	52
Direct materials	16
Direct labour	18

Fixed costs per month are $36 900. Maximum output per month is 2500 units. The factory operates at full capacity.

REQUIRED

(b) Calculate the break-even point:

(i) in units

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.....

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..... [2]

(ii) in sales value.

.....

..... [1]

Additional information

The directors plan to increase factory capacity to meet increased demand. The following details are available.

1 Factory capacity will be increased by 15%.

2 Additional machinery will be required at a cost of $72 000.

3 Machinery is depreciated at 20% per annum on cost.

4 The directors will apply for a bank loan of $60 000 at 8% per annum interest to finance the cost of the additional machinery.

5 Direct materials will cost less per unit as a result of buying in greater bulk. Suppliers currently give a 20% trade discount but will give a 25% trade discount in future.

6 Direct labour costs and selling price will remain unchanged.

REQUIRED

(c) Calculate the increase in the **monthly** margin of safety **in units**, assuming all production is sold.

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Additional information

V Limited produces a different single type of product at **another** factory.

The following details are available:

Selling price per unit	$26
Contribution per unit	$8
Fixed costs per month	$52 000
Factory capacity per month	18 000 units

Currently the factory is operating at 85% capacity. All products are sold to regular customers.

The directors are considering accepting an order from a new customer. The following details are available:

1 The order is for 4200 units per month.

2 The customer is considering making a regular order for this quantity.

3 The customer wishes the product to be packaged differently. This will add $0.50 per unit to variable costs and will require investment in new machinery, adding $1000 per month to fixed costs.

4 The customer has offered to pay $24 per unit.

The directors are considering two options.

Option A: Reject the order from the new customer.

Option B: Accept the order from the new customer, operate the factory at full capacity and reduce the number of units supplied to regular customers.

REQUIRED

(d) Calculate the profit per month to be made under each option.

(i) Option A

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..... [1]

(ii) Option B

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(e) Advise the directors which option they should choose. Justify your answer by considering **both** financial and non-financial factors.

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..... [7]

(f) Explain **two** advantages to a business of using absorption costing.

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2 .....

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[4]

[Total: 30]

12. ***[Nov 2023/P23/Q4]***

Dev manufactures two products, Aye and Bee. He operates a system of marginal costing.

(a) Explain **one** difference between marginal costing and absorption costing.

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..... [2]

(b) Explain **one** difference between a direct cost and an indirect cost.

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..... [2]

(c) State the meaning of the following terms:

(i) break-even point

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..... [1]

(ii) margin of safety.

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..... [1]

(d) State **three** situations where marginal costing can help in decision-making.

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[3]

Additional information

Dev's business operates from one rented factory.

The forecast data for the year ending 31 December 2024 is as follows:

	Aye $	Bee $
Revenue (60 000 units at $11.00)	660 000	
Revenue (80 000 units at $8.50)		680 000
Direct materials	(192 000)	(256 000)
Direct labour	(156 000)	(208 000)
Supervisor fixed salaries	(60 000)	(35 000)
Variable overheads	(114 000)	(152 000)
Fixed factory overheads	(33 000)	(44 000)
Profit / (loss)	105 000	(15 000)

The fixed factory overheads are allocated on the basis of units produced.

(e) Calculate the break-even point **in units** for Aye.

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(f) Calculate the break-even point **in units** for Bee.

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Additional information

Dev is concerned about the forecast loss for Bee. He is considering two options.

Option 1

Replace the current model Bee with an upgraded model Bee.

Increase the selling price of Bee by 10%.

Increase the direct material price by $0.45 per unit using an upgraded material.

Pay $18 000 for an advertising campaign to announce the upgraded model.

Dev believes that this will result in a 20% increase in units of Bee sold.

Option 2

Discontinue production of Bee.

Make the supervisor of Bee redundant thereby incurring redundancy costs of $6000.

Increase the advertising budget for Aye initially by $8000.

Reduce the selling price of Aye by $0.44 per unit.

Dev believes that this will result in a 50% increase in units of Aye sold.

(g) Calculate the revised **total** profit of the business if **option 1** is adopted.

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(h) Calculate the revised **total** profit of the business if **option 2** is adopted.

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(i) Advise Dev which option he should choose. Justify your answer.

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..... [5]

[Total: 30]

ANSWERS

Topic 12.1

(e) Improved product will result in greater customer satisfaction, loyalty and market share.
Expensive material may result in better quality production and lesser wastage.
Despite reduction in labour rate, total wages will increases thus improving worker's earnings causing satisfaction, motivation and improved efficiency.
Additional spending on advertising may increase sales beyond 13 000 units.

10. (a) (i) Excess of selling price over marginal cost per unit.

(ii) A fixed cost that increases due to increase in capacity.

(iii) Excess of sales over break even point.

(b) 1. Helps in determination of break even point & margin of safety.

2. Helps in make or buy decision.

(c) Contribution per unit $[\$59 - (8 \times \$2.70) - (4 \times \$8.20)] = \$4.60$

$$\frac{\text{total fixed cost (\$18 400)}}{\text{contribution per unit (\$4.60)}} = 4000 \text{ units}$$

(d)

	$	$
Sales (8 640 ***[w1]*** × $65)		561 600
Variable cost:		
Direct materials (8 640 × $27.60 ***[w2]***)	238 464	
Direct labour	293 888 ***[w3]***	(532 352)
Contribution		29 248
Fixed cost ($18 400 + $500 ***[w4]***)		(18 900)
Profit		10 348

WORKINGS

[w1] New production level $(7200 \times 120\%) = 8640$ units

[w2] New material cost $(9.20 \text{ kilos} \times \$3) = \$27.60$ per unit

[w3] Labour cost for overtime production $(4 \text{ hours} \times \$12.30) = \$49.20$ per unit

$$\text{Normal capacity } \left(\frac{7200}{90\%}\right) = 8000 \text{ units}$$

$$(8000 \text{ units} \times \$32.80) + (640 \text{ units} \times \$49.20) = \$293,888$$

[w4] Depreciation of additional machine $\left(\$40,000 \times 15\% \times \frac{1}{12}\right) = \$500$

(e) (i)

	$
Sales (14 400 units ***[w5]*** + 7 200 ***[w6]***) × $42	907 200
Variable production cost ($13 + $11 + $3) × 14 400 units ***[w5]***	(388 800)
Purchase cost ($34 × 7200 ***[w6]*** units)	(244 800)
Delivery cost	(4 200)
Fixed cost ($12 000 × 8 weeks)	(96 000)
Profit	173 400

(ii)

	$
Sales (14 400 ***[w7]*** + 4 200 ***[w8]***) × $42	781 200
Variable production costs (14 400 + 4 200) × $27	(502 200)
Machine rent (2 machines × $150 × 7 weeks)	(2 100)
Training cost	(700)
Fixed cost ($12 000 × 8)	(96 000)
Profit	180 200

WORKINGS

[w5] Number of units manufactured (300 units × 6 machines × 8 weeks) = 14,400

[w6] Bought in units (300 units × 4 machines × 8 weeks × 75%) = 7200

[w7] Number of units manufactured using existing machines (300 units × 6 machines × 8 weeks) = 14,400

[w8] Number of units manufactured using replacement machines (300 units × 2 machines × 7 weeks) = 4200

(f) Directors should choose option B because it will yield greater profit. Business will be able to control production quality which may be difficult in case of buying from overseas manufacturer. Additional training may improve workers' efficiency and product quality resulting in greater customer satisfaction.

There will be no risk of delay as it can be in case of supply from overseas.

Replacement machines can be modern resulting in lesser material wastage and better quality production. There will be no redundancy costs which may be in case of buying from other manufacturer.

11. (a) Marginal cost: Cost of making an extra unit.

Contribution: Contribution, excess of selling price over variable cost, made by each sold unit towards initially covering fixed cost and later profits.

Break-even point: A situation whereby business neither makes profit nor loss.

(b) (i) $\dfrac{\text{total fixed costs ($36 900)}}{\text{unit contribution } (52-16-18)} = 2050 \text{ units}$

(ii) Break even (units) 2050 units × sale price ($52) = $106 600

(c) Current margin of safety (2500 units – 2050 units) = 450 units

2500 units × 115% = 2875 units (new capacity)

Depreciation of additional machinery $\left(\$72\,000 \times 20\% \times \frac{1}{12}\right) = \$1200$

Interest on bank loan $\left(\$60\,000 \times 8\% \times \frac{1}{12}\right) = \$400$

Revised total fixed cost ($36 900 + $1200 + $400) = $38 500

Revised material cost $\left(\frac{\$16}{80\%} \times 75\%\right) = \$15$

Revised contribution ($52 – $15 – $18) = $19

$\frac{\text{revised fixed cost (\$38 500)}}{\text{revised contribution (\$19)}} = 2027$ units (new break even)

New margin of safety = new capacity level (2875 units) – new break even (2027 units)

New margin of safety = 848 units

848 units (new margin of safety) – 450 units (old margin of safety)

= 398 units (increase in margin of safety)

(d) **(i)** [(18 000 units × 85%) × $8] – $52 000 = $70 400

(ii) Total capacity (18 000 units) – new order (4200 units) = 13 800 units (to be supplied to regular customer)

Unit contribution ($8) – decrease in sale price ($2) – increase in variable cost ($0.50) = $5.50 (contribution per unit for new order)

(13 800 units × $8) + (4200 units × $5.50) = $133 500 (total contribution)

$133 500 – total fixed cost ($52 000 + $1000) = $80 500 (profit)

(e) Directors should choose option B because it will result in greater profit furthermore business will be able to utilise full capacity.

There can be better quality production and less wastage due to new machinery. There will be less risk of customer loss as new customer has offered to place future orders causing full utilisation of capacity. Workers will get better wages, due to full capacity utilisation, resulting in better efficiency and high motivation.

Directors need to make sure that this special price, which is less than regular price, should not be known to regular customers.

(f) 1. Absorption costing helps in selling price determination based on total cost of doing business.
2. There is no need to separate fixed costs and variable costs as absorption costing is based on total cost.

12. **(a)** In case of marginal costing, fixed cost and variable costs are not added whereas in case of absorption costing, fixed costs and variable costs are added to arrive at total cost

(b) Direct costs can be allocated to each unit of production whereas indirect costs cannot be allocated but apportioned to each unit of production.

(c) **(i)** An activity level whereby business neither makes profit nor loss.

(ii) Excess of current activity over break even point.

(d) 1. Discontinuation of a product.
2. Make or buy
3. Optimum utilisation of scarce resources

(e) Sales ($660 000) – total variable costs ($192 000 + $156 000 + $114 000)
= $198 000 (total contribution)

$$\frac{\$198\,000 \text{ (total contribution)}}{60\,000 \text{ units}} = \$3.30 \text{ per unit}$$

$$\text{Break-even point in units} = \frac{\text{Total fixed cost } (\$60\,000 + \$33\,000)}{\text{Unit contribution } (\$3.30)} = 28\,182 \text{ units}$$

(f) Sales ($680 000) – total variable costs ($256 000 + $208 000 + $152 000)
= $64 000 (total contribution)

$$\frac{\$64\,000 \text{ (total contribution)}}{80\,000 \text{ units}} = \$0.80 \text{ per unit}$$

$$\text{Break-even point in units} = \frac{\text{Total fixed cost } (\$35\,000 + \$44\,000)}{\text{Unit contribution } (\$0.80)} = 98\,750 \text{ units}$$

(g) Bee's profit:

Sales (96 000 ***[w1]*** units × $9.35 ***[w2]***) – direct material (96 000 × $3.65 ***[w3]***) – direct labour (96 000 × $2.60 ***[w4]***) – supervisor fixed salaries ($35 000) – variable overheads (96 000 × $1.90 ***[w5]***) – fixed factory overheads ($44 000) – advertising ($18 000) = $18 200

Bee's profit ($18 200) + Aye's profit ($105 000) = $123 200

WORKINGS

[w1] Previous sales volume $(80{,}000) \times 120\% = 96{,}000$

[w2] Previous sales price $(\$8.5) \times 110\% = \$9.35$

[w3] Previous material cost per unit $\left(\frac{\$256{,}000}{80{,}000 \text{ units}}\right) + \$0.45 = \$3.65$

[w4] Labour cost per unit $\left(\frac{\$208{,}000}{80{,}000 \text{ units}}\right) = \$2.60$

[w5] Variable overheads per unit $\left(\frac{\$152{,}000}{80{,}000 \text{ units}}\right) = \$1.90$

(h) Sales (90 000 ***[w6]*** units × $10.56 ***[w7]***) – total variable cost (90 000 units × $7.70 ***[w8]***) – fixed supervisor salary for Aye ($60 000) – redundancy cost for Bee's supervisor ($6000) – fixed factory overheads of Aye ($33 000) – fixed factory overheads of Bee ($44 000) – advertising ($8000)
= $106 400

WORKINGS

[w6] Previous sales volume $(60{,}000) \times 150\% = 90{,}000$

[w7] Previous sales price $(\$11) - \$0.44 = \$10.56$

[w8] Previous sales price ($11) – previous contribution $(\$3.30) = \$7.70$

(i) Dev should choose option 1 because of greater profit. Dev will be able to increase sales volume of Bee by 20% thus increasing market share and sound customer base. There will be no redundancy and all resources will remain employed. Improved product may result in greater customer satisfaction. Greater advertising spending may be fruitful for long period of time. There will be no damage to business reputation which is very likely due to discontinuation of product under option 2