



1 Caliban Ltd manufactures a product, CAL32, and uses process costing. Information relating to the inputs used in December 2019 was available.

Material X	12 000 kg costing	\$6.50 per kg
Material Y	7 200 kg costing	\$4.25 per kg
Material Z	4 800 kg costing	\$5.65 per kg
Direct labour	1 500 hours costing	\$10.80 per hour
Overheads	Absorbed at a rate of \$16.26 per direct labour hour	

The expected output is 92.5% of material inputs.

Any losses can be sold at a value of \$1.75 per kg.

During December 2019, the amount of good output produced was 22 760 kg.

(a) Prepare the process account for Caliban Ltd for December 2019

(10)

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(b) Prepare the following ledger accounts:

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- Normal loss account

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- Abnormal loss/gain account.

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(c) Explain **two** differences between joint products and by-products.

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Caliban Ltd is considering apportioning costs to its joint products based on kg of output.

- (d) Advise the management of the business of **one disadvantage** of apportioning costs to its joint products based on kg of output.

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- (e) Explain **two** reasons why a business might use process costing.

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(Total for Question 1 = 22 marks)



- 2 Prospero Ltd produces a range of products including the JT44. Two budgets had been produced for December 2019.

	Budget 1	Budget 2
Units produced and sold	65 000	80 000
	\$	\$
Revenue	611 000	752 000
Costs		
Materials	182 000	224 000
Labour (note 1)	74 250	75 000
Heat, light and power (note 2)	22 500	24 000
Machine hire (note 3)	14 400	14 400
Production overheads (note 4)	162 600	166 350
Non-production overheads	223 450	223 450
Total costs	<u>679 200</u>	<u>727 200</u>
Net profit/(loss)	<u>(68 200)</u>	<u>24 800</u>

Notes

- Labour is a semi-variable cost. Employees are paid an output-related bonus of \$0.05 per unit and the rest is a fixed cost.
- Heat, light and power is a semi-variable cost where the fixed element is \$16 000
- The company hires machines, each of which has a capacity of 30 000 units per month.
- Production overheads is a semi-variable cost.

(a) Calculate the:

(i) labour fixed cost

(1)

(ii) heat, light and power variable cost per unit

(1)



(iii) cost of hiring **one** machine

(1)

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(iv) fixed and variable elements of the production overheads.

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The directors of Prospero Ltd are considering replacing the JT44 with the FL26

Information about the FL26 is available.

110 000 units will be sold for \$13.50 per unit.

Variable costs will be \$5.30 per unit.

Fixed costs will be \$767 520 per month.

(d) Prepare a break-even chart for the FL26 (on the graph paper provided) that shows:

(6)

- output from 0 to 110 000 units
- the break-even point in units
- the margin of safety in units
- the profit/loss that will be made each month if 110 000 units were sold.

Workings

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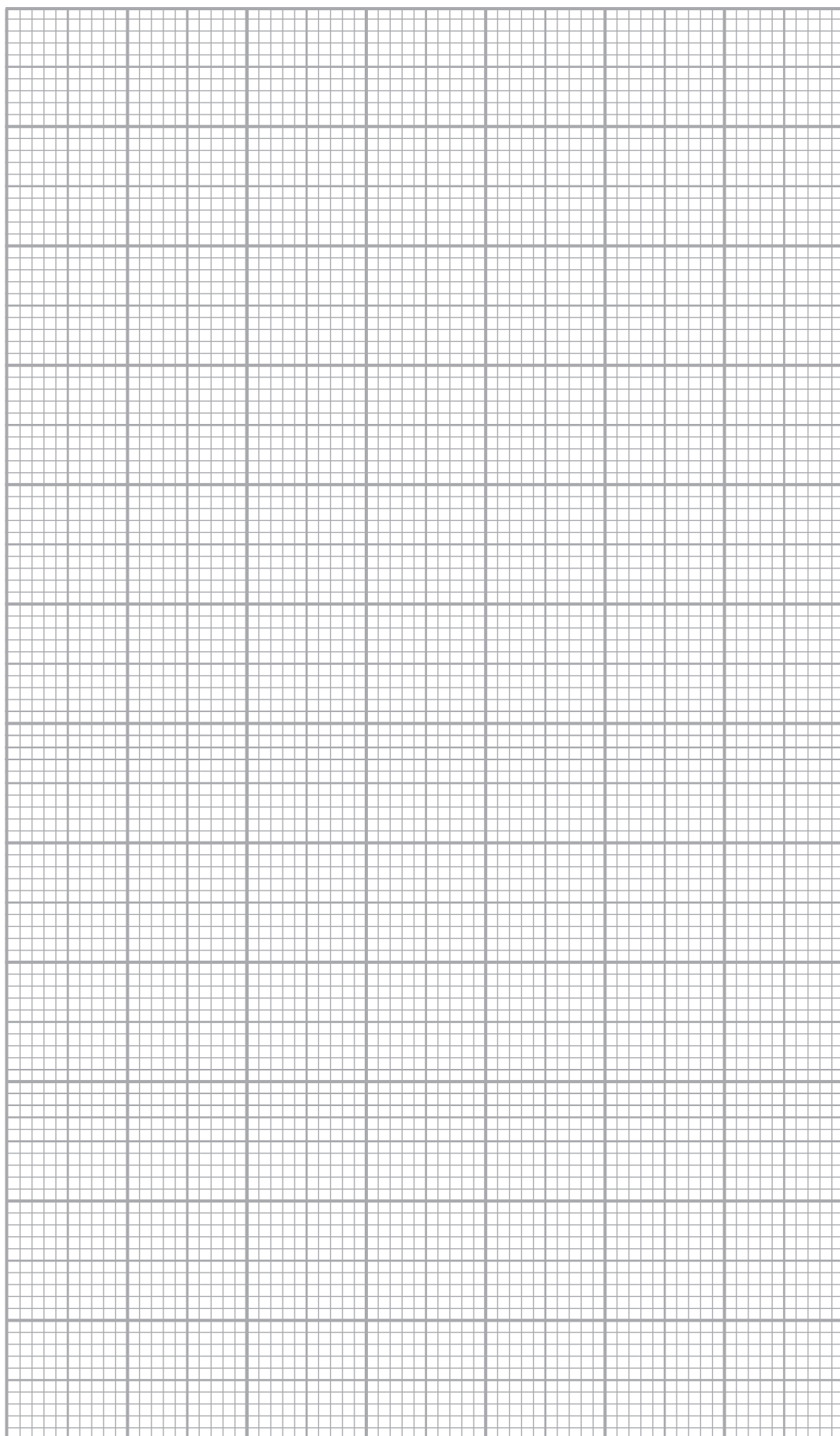
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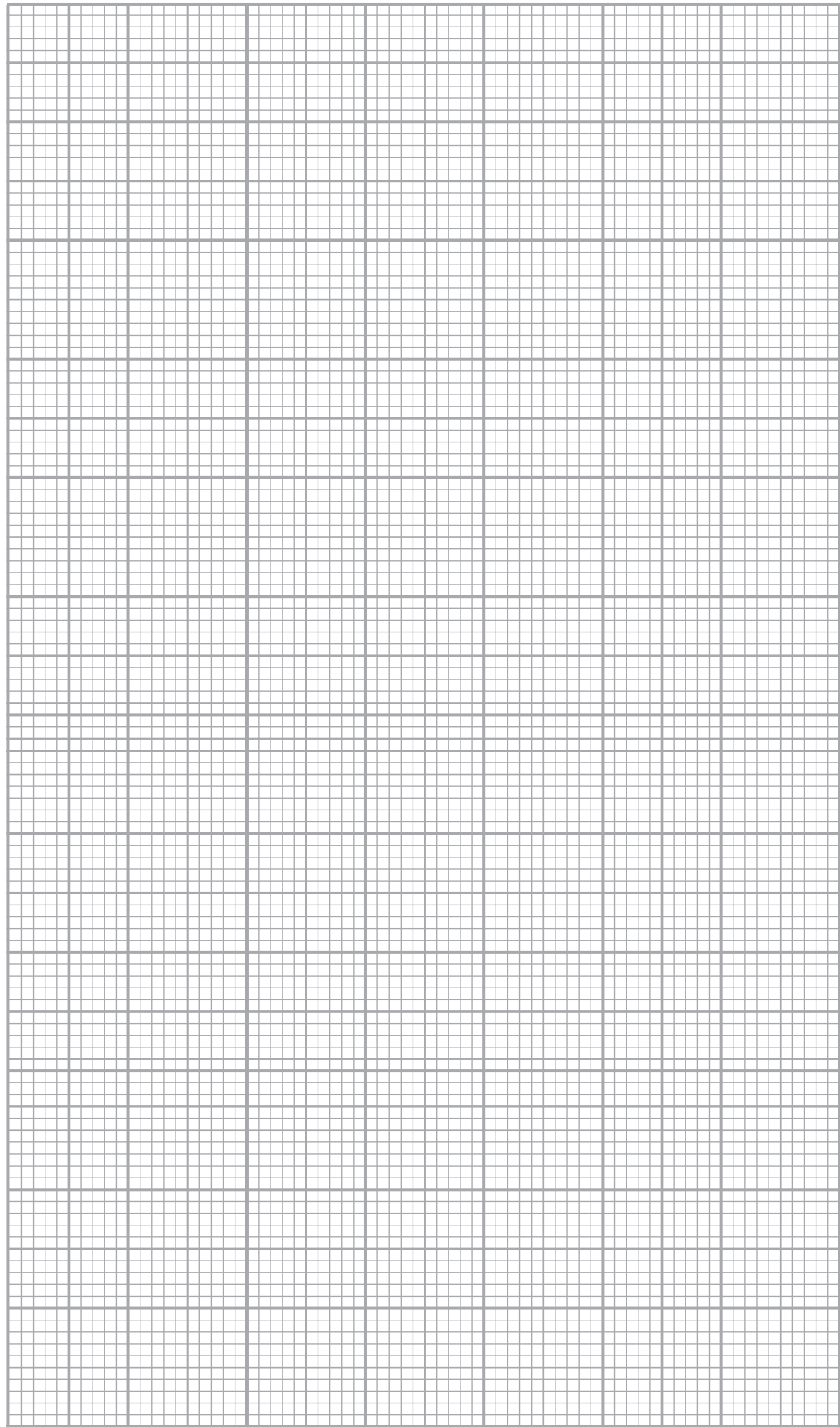
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3 Ferdinand Ltd has two production departments (Manufacturing and Packing) and two service departments (Stores and Administration). Information for December 2019 is available.

	\$
Rent and rates	8 000
Machine depreciation	12 600
Stores salaries	4 700
Administration salaries	3 500
Heat, light and power	2 900
Other overheads	11 100

Information for each of the departments is available.

	Manufacturing	Packing	Stores	Administration
Floor area (square metres)	400	200	300	100
Machine value (\$000)	775	185	40	-
Electricity usage (%)	45	20	10	25
Stores requisitions (number)	240	160	-	-
Machine hours	1 500	300	-	-
Direct labour hours	900	1 600	-	-
Other overheads (allocated)	4 420	2 780	1 785	2 115

The company policy is to reapportion service department overheads to the production departments, using the direct method, on the following bases.

Stores – number of stores requisitions.

Administration – 50% to each production department.

All calculations should be rounded to the nearest \$.

(a) Complete the Overhead Distribution Table for Ferdinand Ltd.

(10)

Workings





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Overhead Distribution Table

Expense	Basis	Total \$	Departments \$		
			Manufacturing	Packing	Stores
Rent and rates		8 000			
Machine depreciation		12 600			
Store salaries		4 700			
Administration salaries		3 500			
Heat, light and power		2 900			
Other overheads	Allocation	11 100	4 420	2 780	1 785
Sub-total					2 115
Reapportionment					
Stores overheads					
Administration overheads					
Total					

(b) Calculate the overhead absorption rates for **each** of the Manufacturing **and** Packing departments using an appropriate basis, giving **each** answer to the nearest cent.

(2)

The actual overheads and the number of machine and direct labour hours worked in December 2019 were:

	Manufacturing	Packing
Actual overheads	\$30 300	\$14 630
Machine hours	1 685	412
Labour hours	970	1 643

(c) Calculate the over absorption or under absorption of overheads for Ferdinand Ltd for **each** of the Manufacturing and Packing departments.

(4)

(Total for Question 3 = 16 marks)



- 4 Portia Ltd manufactures the PS97 and has set a production target for its 24 production line staff of 50 units of PS97 per labour hour.

Each worker is contracted to work 170 hours per month.

During December 2019, 247 680 units of PS97 were produced and a total of 4 290 labour hours were worked.

(a) Calculate, for December 2019, the:

- (i) standard hours for actual production

(1)

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- (ii) production efficiency ratio

(2)

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- (iii) production capacity ratio

(3)

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- (iv) production volume ratio.

(2)

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(b) Explain what is meant by the term **standard cost**.

(2)

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The managers at Portia Ltd have been examining the controls in place to ensure the safety, confidentiality and security of information.

The main findings of the examination are shown below.

- There is a policy that all work carried out on office computers is saved at least once per hour and files are backed up at the end of the day. When checked, there was 97% compliance with this policy.
- There is a policy that office computers should be logged out or 'locked' when users are not at their desks. When checked, there was a 36% compliance with this policy.
- Employees only have access to the parts of the management information system needed to perform their job role.
- Employees are required to change their original password every 30 days – 75% of users were still using the original password, which is the employee's initials followed by their date of birth.
- Employees should only use encrypted USB (memory) sticks provided by the company – the investigation found no examples of employees using their own USB (memory) sticks.
- The firewall and virus protection is three years old.

(c) Evaluate how effective the controls in place at Portia Ltd are in ensuring the safety, security and confidentiality of information.

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Effective controls

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Ineffective controls

Conclusion

(Total for Question 4 = 16 marks)



5 Miranda Ltd had the following information relating to its production of product MS88 for December 2019.

	Budget		Actual	
Production	24 000 units		22 600 units	
Materials	39 000 kg	\$210 600	37 180 kg	\$195 195
Direct labour	7 560 hours	\$71 820	6 890 hours	\$66 144
Overheads		\$166 380		\$161 490

Material and labour are variable costs.

Overheads are fixed costs.

(a) Calculate, for December 2019, the:

(i) material usage variance

(3)

(ii) material price variance

(2)



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(iii) labour efficiency variance

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(iv) labour rate variance

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(v) overhead expenditure variance.

(1)

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(b) Calculate the total standard cost of production for the 22 600 units produced in December 2019.

(2)

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- (c) Prepare the Cost Reconciliation Statement using the variances that you calculated in (a).

(4)

COST RECONCILIATION STATEMENT			
			\$
Standard cost of actual production			
Variances	Favourable \$	Adverse \$	
Direct material usage			
Direct material price			
Direct labour rate			
Direct labour efficiency			
Fixed overhead expenditure			
Total variance			
Actual cost of actual production			

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In **November 2019**, Miranda Ltd used direct material of a lower quality than expected.

(d) State **one** possible effect of using lower quality direct material on **each** of the following variances for November 2019.

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- Direct material price

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- Direct material usage

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- Direct labour efficiency

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(Total for Question 5 = 20 marks)

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