4 F Limited is a manufacturing company which uses absorption costing at one of its factories. This factory has two production departments and two service departments.

Budgeted costs have already been allocated and apportioned.

REQUIRED

(a) Explain the meaning of **each** of the following terms:

(i) Allocation

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(ii) Apportionment

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(b) State **one** benefit of using absorption costing.

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(c) State **one** limitation of using absorption costing.

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Additional information

The budgeted costs for April 2022 before reapportionment of the service departments' overheads are as follows.

	Production departments		Service departments	
	Assembly department	Finishing department	Stores department	Maintenance department
	$	$	$	$
Total overhead costs	275000	103200	19200	26700

The service department overheads are apportioned to the production departments on the following basis.

	Assembly department	Finishing department	Stores department	Maintenance department
Maintenance	60%	30%	10%	–
Stores	75%	25%	–	–

REQUIRED

(d) Calculate the total overheads for **each** production department by reapportioning the service department overheads.

	Production departments		Service departments	
	Assembly department	Finishing department	Stores department	Maintenance department
	$	$	$	$
Total overhead costs	275000	103200	19200	26700
Subtotal				
Total				

[3]

Additional information

The following additional monthly budgeted information is available about the production departments.

	Labour hours	Machine hours
Assembly department	950	1430
Finishing department	840	380

REQUIRED

(e) Calculate the overhead absorption rate for **each** department to **two** decimal places.

(i) Assembly department

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(ii) Finishing department

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Additional information

In April 2022, production was less than the forecast figure. The Assembly department's actual overheads were $285 400, actual labour hours were 820 and actual machine hours were 1310.

REQUIRED

(f) Calculate the under-absorption or over-absorption of overheads for April 2022 for the Assembly department.

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Additional information

At another factory the company manufactures two products. This factory uses marginal costing. The following details are available.

	Product X $	Product Z $
Direct materials per unit	6	9
Direct labour per unit	9	9
Fixed costs per unit	5	6
Selling price per unit	24	30
Normal production per month (units)	8000	4000

The company has a major customer who usually orders 5000 units of Product X each month. This order is included in the normal production of 8000 units per month.

In May 2022 the customer has asked for 9000 units of Product X.

If it is not possible to supply this quantity, the customer has informed the directors that they will place their entire order and all future orders with another company.

The directors are considering two options.

Option A

1 Stop manufacture of Product Z and devote all labour hours to the production of Product X.

2 The company will be able to complete all the normal orders for Product X and the increased order from the customer.

3 The workforce for Product Z will require some retraining, costing $3000.

Option B

1 Maintain normal production levels.

2 Refuse the customer's order.

3 Reduce the selling price of Product X by 5% in order to enable all normal production of this unit to be sold.

REQUIRED

(g) Calculate the profit to be made in May 2022 for each of the options.

(i) Option A

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(ii) Option B

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

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