4 Y Limited is a large manufacturing company with factories at several locations. The company uses a marginal costing system.

REQUIRED

(a) State **three** benefits to a business of break-even analysis.

1 ....

....

....

2 ....

....

....

3 ....

....

.... [3]

Additional information

At one factory a single product is manufactured which sells for $75 per unit. The budgeted costs of manufacture for one unit are as follows:

	$
Direct materials 2 kg at $12.50 per kg	25
Direct labour 3.5 hrs at $10 per labour hour	35

Fixed costs are budgeted to be $66 000 per month. It is possible to produce 7500 units in normal working conditions. Currently 5800 units are made and sold each month.

REQUIRED

(b) Calculate the monthly break-even point:

(i) in units

....

....

....

.... [2]

(ii) in sales revenue

....

....

....

.... [1]

(c) Calculate the forecast profit per month based on 5800 units.

....

....

....

.... [2]

(d) Define the term ‘margin of safety’.

....

.... [1]

Additional information

The directors of Y Limited believe they can increase demand for their product by making some changes to the design. This would result in the following.

1 A $7 increase in the selling price per unit

2 A 10% increase in direct materials usage

3 A 20% increase per kg in direct materials cost

4 A forecast 40% increase in demand.

Overtime working is available if required. This will be paid at a 25% premium.

Additional machinery will be required at a cost of $24 000. The company's policy is to depreciate machinery over a 5-year period.

REQUIRED

(e) Prepare a marginal cost statement showing the monthly profit based on these changes.

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

.... [10]

Additional information

At a different factory the company manufactures two products: Product A and Product B.

The following budgeted information is available.

	Product A	Product B
Monthly demand	300 units	200 units
Selling price per unit ($)	20	25
Direct materials per unit ($)	5	14
Direct labour hours per unit	0.75	0.5

Each product uses the same direct labour, but requires different direct materials. Direct labour is paid at $12 per hour.

The production manager is aware that only 285 hours of direct labour will be available in August 2020.

REQUIRED

(f) Prepare the optimum production plan.

....

....

....

....

....

....

....

....

....

....

....

.... [6]

Additional information

The marketing director does not think that the optimum production plan should be implemented.

REQUIRED

(g) Advise the directors whether or not the company should implement the optimum production plan. Justify your answer referring to **both** financial and non-financial factors.

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

.... [5]