Class | Adm No

Candidate Name: ______________________________

H

millennia institute

2022 Preliminary Examination

Pre-university 3

PRINCIPLES OF ACCOUNTING **9593/02**

Paper 2 **20 September 2022**

3 hours

READ THESE INSTRUCTIONS FIRST

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Section A
Answer **all** questions.

Section B
Answer **all** questions.

Start each answer on a new page.
You may use a calculator.
All calculations must be shown adjacent to the answer.

The number of marks is given in brackets [ ] at the end of each question or part question.

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Section A

Answer **all** questions in this section

1 Valore (Pte) Limited manufactures a component used in the production of mobile devices. Currently, it can produce a maximum of 10 000 units. They provided the following budgeted information.

Per unit	$
Selling price	40
Direct material	11
Direct labour	5
Total of semi-variable and fixed cost	$
Factory costs for 5 000 units	35 000
Factory costs for 10 000 units	55 000
Fixed overheads	80 000

REQUIRED

a Explain, with examples, what is meant by 'fixed cost' and 'variable cost'. [4]

b Calculate the break-even point in units for the company. [6]

c Calculate how many units need to be produced and sold to earn a profit of $50 000. [2]

d Discuss the limitations of using break-even analysis to make decisions. [4]

Valore is currently operating at 70% capacity and has received an order for 2 000 units of the mobile phone component at a selling price of $25 per unit.

REQUIRED

e Should Valore accept the order? Why or why not? [4]

[Total: 20]

2 Snuggy Limited has been in operation for many years. It makes a popular type of chair called Snoozy. The monthly budget for Snoozy is as follows.

Sales are 6 000 units with a selling price of $26 per unit.

Each unit requires 2.4 kilos of raw material costing $3 per kilo.

Each unit requires 1.5 hours of direct labour time costing $7 an hour.

Each unit requires $2 of variable overhead.

Early in 2022 a new supplier entered the market, selling the required raw material at $1.80 per kilo. In April, Snuggy Limited bought all its raw material from this new supplier. Each unit of Snoozy required 2.6 kilos.

Labour took 40% longer than usual to produce each unit. Average wage rate rose to $7.80 an hour. Variable overheads increased by 10% per unit.

Snuggy Limited managed to produce and sell 5 000 units. The selling price rose by $0.50 per unit.

REQUIRED

a State two advantages and two disadvantages of preparing budgets. [4]

b Prepare a flexible budgeted income statement for the month of April 2022, showing clearly the contribution margin. [4]

c Calculate the following variances for April 2022:

i. Sales price
ii. Direct materials usage
iii. Direct materials price
iv. Direct labour efficiency
v. Direct labour rate [9]

d Suggest how the direct material price variance could be linked to the direct material usage variance. [1]

e Suggest how the direct material price variance could be linked to the direct labour rate variance. [2]

[Total: 20]

3 Girona Wee is a professional accountant. She is suffering from stress and has been advised by her doctor to reduce her workload.

Her income is loosely related to her reputation and the hours she spends working for clients. She employs two assistants, Ariel and Bart, and during recent years, her annual profits have averaged $180 750 calculated as follows:

	$	$
Income		
Girona: 800 chargeable hours at $300		240 000
Ariel: 1 300 chargeable hours at $200		260 000
Bart: 1 500 chargeable hours at $130		195 000
		695 000
Less: Expenses		
Fixed occupancy and secretarial costs	245 000	
Direct cost at 15% of income	104 250	
Salary - Ariel	90 000	
Salary - Bart	75 000	
		514 250
		180 750

Girona spends 300 hours per year supervising Ariel's work and 500 hours supervising Bart.

Girona feels that to maintain a good standard of living, she would need an annual profit of $90 000. She considers she can implement any one of the following options.

Option 1 Employ another assistant under the same conditions as Bart and reduce her chargeable hours to 100 per year.

Option 2 Make Ariel redundant to save her supervision time.

Option 3 Make Bart redundant, reduce her own chargeable hours to 400 each year and secure smaller and cheaper premises with occupancy and secretarial costs of $140 000 per year.

REQUIRED

a Calculate the profit arising from each of the three options above. [12]

b Calculate the number of hours Girona will need to work either fee earning or supervising for each of the three options. [3]

c Advise Girona on her best choice. Give reasons to support your answer. [3]

d What other factors should Girona consider in choosing the option in **(c)** above? [2]

[Total: 20]

[Turn over

Section B
Answer all questions

4 Kinetic Limited manufactures three different types of batteries, Alpha, Beta and Delta. The emergence of economies from the pandemic has give rise to an increase in forecasted demand for the firm's products. The results for the year ended 31 August 2022 were as follows:

	Alpha	Beta	Delta	Total
Sales in units	1 000	4 000	2 000	7 000
	$	$	$	$
Sales (value)	360 000	480 000	900 000	1 740 000
Direct materials	108 000	48 000	240 000	396 000
Direct labour	60 000	120 000	300 000	480 000
Variable overheads	132 000	216 000	168 000	516 000
Fixed allocated overheads	66 000	108 000	84 000	258 000
Total costs	366 000	492 000	792 000	1 650 000
Profit (Loss)	(6 000)	(12 000)	108 000	90 000

Fixed overheads are allocated in proportion to the products' variable overheads.

Sales in the year ending 31 August 2023 will be limited by the availability of local skilled direct labour of only 16 000 hours. The cost to the company of such labour is $30 per hour.

In a meeting to discuss next year's production, it was proposed to stop the production of Beta as the product line has made the most loss in the year ended 31 August 2022.

At that meeting, the sales director says that if prices remain unchanged, demand for all the company's products will be 50% higher than 2022 levels.

However, the managing director takes a different view, and he considers that the following actions should be taken immediately:

1. The loss on Alpha batteries would be eliminated if the selling price were reduced by 10%. This would lead to a doubling of sales volume which he says would more than compensate for the price reduction.

2. The selling price of Beta batteries should be increased by 20%. The effect of this would be to reduce sales by half and the resulting saving of labour should be used to produce the additional requirement for Alpha batteries.

3. No changes should be made to the production or sales of Delta batteries.

To mitigate the shortage of labour, the production manager proposes to buy machinery which will reduce the company's reliance on labour in its production. The machinery will cost $250 000 payable in full on the outset. It will last six years and then be sold for $30 000. To buy the machinery, a loan of $200 000 repayable in six years, will have to be taken.

If the machinery is purchased, cost savings of $95 000 per year from direct labour will result. Annual maintenance cost of $6 000 and annual interest costs of $20 000 per year will be incurred. These savings can be assumed to arise at the end of each year.

The company's required rate of return on its investment in capital projects is 12%. Below are the relevant discount factors for this rate of return.

Year	Discount factor
1	0.893
2	0.797
3	0.712
4	0.636
5	0.567
6	0.507

REQUIRED

a Explain contribution margin and its usefulness in short term decision making. [4]

b Should the company discontinue the production of Beta batteries? [4]

c For the year ending 31 August 2023, prepare a statement to show the contribution per product line and the overall profit of the company, if the managing director's proposals are accepted. [6]

d If the business does not purchase any machinery and the predictions of the sales director prove correct, calculate the overall profits of the company if it follows the optimal strategy available to it. [8]

e Based on your computation in **(c)** and **(d)**, whose proposal will you recommend? Give reasons for your recommendation. [4]

f Should the business invest in the machinery? Support your answer with a detailed computation of the net present value of the proposed investment in the machinery. [6]

g What other **non-financial** factors should the business consider before deciding to purchase the machinery? [4]

h Comment on the limitations of using discounted cash flows to make investment decisions. [4]

[Total: 40]

End of Paper