Candidate Name: ______________________ Class: __________

H

millennia institute

2021 Preliminary Examination
Pre-university 3

PRINCIPLES OF ACCOUNTING **9593/2**

20 September 2021

3 hours

Additional Materials: Answer Booklet

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 to a new question on a new page
All calculations must be shown adjacent to the answer

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

This question paper consists of 8 printed pages and 1 blank page.

[Turn over

SECTION A

Answer **all** questions in this section.

1.

The directors of Brown Ltd are deciding between investing in two equipment, Equipment P and Equipment Q to expand the company. Equipment P has an initial cost of $500 000 and further details are given below:

	Year	$
Expected profit	1	160 000
Expected profit	2	150 000
Expected profit	3	80 000
Expected profit	4	60 000
Expected profit	5	40 000
Estimated value of proceeds of sale of equipment P at the end of year 5		50 000

Additional Information

1. Profits as given above have been calculated after deducting straight line depreciation calculated over the five years.
2. The company's cost of capital is 12%. The relevant discount table is shown below.

End of Year	Discount factor
1	0.893
2	0.797
3	0.712
4	0.636
5	0.567

REQUIRED

(a) Calculate the payback period in years and months for Equipment P. [3]

(b) Calculate the net present value for Equipment P. [6]

Additional Information

The directors have calculated the following for Equipment Q.

Initial cost	$600 000
Payback period	2 years 9 months
Net present value	$240 000

(c) Advise the company which Equipment they should buy. Justify your answer. [5]

(d) State two limitations of capital investment analysis. [2]

Additional Information

To fund another investment, the directors are considering to raise $200 000 from the capital markets through $1 ordinary shares and unsecured loans. The returns required by investors at two different levels of gearing are as follows:

Percentage of capital to be raised by loans	$1 ordinary shares	Unsecured loans
40%	14%	12%
60%	16%	18%

REQUIRED

(e) Calculate the cost of capital at each level of gearing. [4]

[Total: 20]

2

Mr Black runs a business that makes products from a single raw material, Zox which he buys from a supplier. He has prepared the sales budgets for the months of July to October 2022.

	Sales units
July	20 000
August	26 000
September	28 000
October	38 000

At 30 June, there will be 3 000 units of the finished goods in stock. For finished goods, Mr Black maintains a closing stock of 15% of the following month's budgeted sales.

Each unit of the finished product will require 2 units of Zox. Each unit of Zox costs $5. Mr Black operates a just in time stock policy for raw material, buying only what he needs in the month of production.

REQUIRED

(a) Prepare Mr Black's purchases budget in both units and value for each month from July to September 2022. [5]

Additional information

The supplier has informed Mr Black that due to logistical problems, he can only supply a maximum of 55 000 units of Zox each month from July 2022.

REQUIRED

(b) State the month or months in which Mr Black will not be able to purchase all the budgeted units of Zox that he requires and the amount of shortfall in units. [2]

Additional information

Mr Black is considering two options to cope with the shortage in Zox.

Option 1

Purchase additional units of Zox in the month or months when less than 55 000 units of Zox are required. This will incur additional storage costs of $0.50 per unit for each month the extra units of Zox are held in stock. All units of Zox are delivered on the first day of each month.

REQUIRED

(c) Advise Mr Black on the most cost effective way to purchase the required units of Zox. [2]

(d) Calculate the cost of this option. [4]

Option 2

Purchase all the additional units of Zox required from another supplier for the months when the current supplier is unable to supply the required units of Zox. The new supplier charges $6 per unit of Zox.

REQUIRED

(e) Calculate the cost of this option. [2]

(f) Advise Mr Black which option he should choose. [5]

[Total: 20]

3.

Yellow Limited is a newly formed company that uses a budgetary control system. These are their financial projections for the first year of trading:

1. On 1 January, shareholders provide share capital of $250 000.

2. On 1 April, the company will raise a mortgage loan of $60 000. Interest at an annual rate of 8% is payable in equal monthly amounts. The loan is to be paid in 10 equal annual instalments, the first being made on 30 September.

3. On 1 July, the company will buy equipment for $360 000. Any additional finance will be available by means of a bank overdraft. The equipment will be depreciated using the straight line method over five years

4. Sales will be $100 000 per month and customers will be invoiced at the end of each month and given two month's credit. The gross profit margin will be 40%.

5. Two months' inventory will be held at all times and sufficient inventory will be purchased on 1 January to enable this to be done. Purchases will be made on one month credit.

6. Operating overheads, excluding depreciation, will be $25 000 per month for the first six months, increasing to $30 000 per month after that. Operating overheads are supplied on one month's credit.

REQUIRED

(a) State two advantages of preparing a cash budget. [2]

(b) Calculate the level of bank overdraft needed at the end of the first year's trading. [6]

(c) Prepare a budgeted Income statement for the first year of trading. [6]

Additional information

The management is concerned about the high costs of using a bank overdraft facility and is considering ways to better manage its working capital to reduce its overdraft.

REQUIRED

(d) Suggest three ways the management could better manage its working capital to reduce the bank overdraft. [6]

[Total: 20]

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SECTION B

Case study: Answer **all** questions.

4.

Green Limited is a manufacturer with a reputation for producing quality knitted wear. Its best selling products are Aqua, Blue and Cyan.

The budgeted financial data for January 2022 is as follows:

Product	Aqua	Blue	Cyan
Sales (units)	2 000	4 000	1 000
Per unit	$	$	$
Selling price	44	24	20
Direct material – material X	18	6	12
Direct labour	10	4	6
Allocated fixed overheads	6	4	4

REQUIRED

(a) Prepare a statement to show the contribution for each product and the overall profit for January 2022. [5]

(b) Calculate the break-even sales in dollars for Aqua. [2]

Additional Information

All products use the same material – material X which is bought from a supplier at $3 per metre. Green Limited currently holds 16 200 metres of material X.

The supplier has informed Green Limited that due to production problems, it can only supply 2 000 metres of material X to Green Limited for January 2022. No alternative supplier is available at such a short notice.

REQUIRED

(c) Calculate the maximum profit for January 2022 if Green Limited makes the best use of material X. [8]

Additional Information

A customer has approached the company offering to buy as many units of Blue that it can produce with the available quantities of material X. The customer has offered a price of $21 per unit of Blue.

REQUIRED

(d) Calculate the profit that this order will earn if it is accepted. [5]

(e) Advise the company whether or not they should accept the order. Justify your answer. [4]

Additional Information

Green Limited is currently reviewing its product range and is considering to stop the production of Cyan.

REQUIRED

(f) Advise Green Limited if it should stop the production of Cyan. Justify your answer. [4]

Additional Information

Grey Limited, a subsidiary of Green Limited, makes knitting kits. It is reviewing its production budgets for 2022. Shown below are the budgeted unit costs for two of its products, Orange and Red.

	Orange	Red
	$ per unit	$ per unit
Direct materials	50	92
Direct labour	38	23
Variable overhead	12	9
Fixed overhead	50	18
	150	142

Budgeted production and sales for 2022 is 10 000 units of Orange and 15 000 units of Red. It is possible to purchase Orange and Red from another manufacturer for $115 and $108 per unit respectively. The company can rent out its factory space for $4 000 per month if either product is not manufactured and $15 000 per month if both products are not manufactured.

The management is considering the following options for 2022:

1 Buy both Orange and Red;

2 Manufacture both Orange and Red;

3 Buy one and manufacture the other.

REQUIRED

(g) Advise the management which option they should choose. Justify your answer. [8]

Additional Information

A manager at Grey Limited suggested that they should continue to manufacture both the products as they have already invested $160 000 on a specialised equipment to be used in the manufacturing process. If production of both products were to cease, the equipment will become redundant and will have to be written off as it cannot be resold.

REQUIRED

(h) Draft a short reply to the manager, commenting on his suggestion. [4]

[Total: 40]